THE PRACTICAL DECORATION OF FURNITURE

H. P. SHAPLAND

DISCARD

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By H. P. SHAPLAND, A.R.I.B.A.

Ready Shortly

VOLUME TWO. MOULDING, PIERCED WORK, TURNED WORK, TWISTING & CARVING

VOLUME THREE. APPLIED METALWORK, COVERING WITH LEATHER & TEXTILES, LACQUERING & MISCELLANEOUS DECORATION

THE PRACTICAL DECORATION OF FURNITURE

VOLUME ONE

VENEERING, INLAY OR MARQUETERIE
GILDING, PAINTING

By

H. P. SHAPLAND, A.R.I.B.A.

EDITOR OF "THE CABINET MAKER"

Cantor Lecturer, Royal Society of Arts, 1926. Lecturer on Furniture for the Board of Education and the London County Council. Member of the Council of The Design and Industries Association

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INTRODUCTORY

THERE is very little furniture that is devoid of some form of enrichment. Even in the simplest types the desire of the craftsman to add a touch of fancy or distinction to his work is evident, and though decoration is not essential to good furniture its universal use suggests that ornament of one kind or another is a genuine need of the human mind.

The purpose of the author in *The Decoration of Furniture* is to examine in some detail the various methods which cabinet-makers have adopted for the embellishment of their work. The well-worn oak settle of the village inn and the elaborate cabinet of Oriental lacquer present a great contrast in treatment, but each has its peculiar merits which the connoisseur recognizes and appreciates. Between these two extremes there is infinite variety, and it is this variety, this wealth of decoration as applied to furniture, that is brought under review and illustrated in these volumes.

Furniture may be enriched by moulding, piercing, turning, twisting, carving, veneering, marqueterie or inlay, gilding, painting, graining, lacquering or applied metal work ; it may also be covered with decorative textiles and leather or overlaid with ivory, tortoiseshell or precious metals. The list is in itself a formidable one, but each method of enrichment is capable of further subdivision. Carving, for instance, is the generic term used for enrichment which consists of little more than mere scratching with a gouge or V-tool, and also for the bold profusion of the work of Grinling Gibbons. At one end of the scale ornament in outline, at the other human, animal, and floral forms carved with consummate skill in high relief, while between the simplest and most elaborate forms of expression there are many gradations.

Marqueterie and inlay can show variations which are even more pronounced because of the number of materials employed—ivory, ebony, mother-of-pearl, natural and dyed woods, tortoiseshell and brass.

In applied metal the crude but fascinating wrought-iron hinges and locks of the thirteenth- and fourteenth-century smiths may be contrasted with the achievements of the eighteenth-century *ciseleurs* in France whose cast, chased and gilded mounts for furniture have been justly likened to the work of goldsmiths.

INTRODUCTORY

The illustrations constitute a conspectus of the great variety of ornamental detail which has been applied to furniture in Europe.

There are numerous specimens of fine furniture which owe their decorative effect not to one but to many methods of enrichment. For example, a late renaissance buffet was made by one Melthior Rheydt, of Cologne, in 1610. In producing it moulding, piercing, carving, turning and marqueterie are all employed. As far as possible specimens of this hybrid kind have been omitted and an endeavour has been made to include under the various headings specimens of furniture which depend for their appeal upon one method of decorative treatment only. This has not been possible in every case, but in the main that system of classification has been followed.

Although approximate dates have been given, the examples illustrated are not arranged chronologically ; the method of classification is as follows : each section contains illustrations of a particular method of decoration, covering the technique from the simplest to the most elaborate examples. The assumption that early furniture was simple, and that as the centuries have progressed it has become more elaborate cannot be maintained. The tendency, on the contrary, is frequently in the opposite direction. It is therefore necessary to emphasize that each series of illustrations, under the various headings of carving, inlay, painting, etc., are as far as possible arranged in progression from the simplest example at one end of the scale to highly elaborated ones at the other, so that attention is drawn to the various phases of any given form of decoration, rather than to chronological developments.

The furniture illustrated has been photographed in British, Continental and American museums and private collections. Among these are The British Museum, London ; the Musée des Arts Décoratifs, Paris ; the Victoria and Albert Museum, London ; the Museum of Art and Industry, Vienna ; the Schlossmuseum, Berlin ; Rijks-Museum, Amsterdam ; Museo Civico, Turin ; the Wallace Collection, London ; the National Museum, Stockholm ; Germanisches National Museum, Nuremberg ; Nordiska Museet, Stockholm ; Museum of the University of Christiania ; Swiss National Museum, Zurich ; the Cathedral at Halberstadt ; Kunstgerwerbe-

Museum, Cologne; National Museum, Florence; Geffrye Museum, London; Musée Plantin, Antwerp; Musée Vléeshhuis, Antwerp; the Metropolitan Museum of Art, New York; the Bavarian National Museum, Munich; and the Landesgewerbe Museum, Stuttgart.

The author expresses his gratitude to the Directors of these museums for their permission to publish the photographs which appear in the following pages. He also acknowledges his indebtedness to Mr. J. H. Sellers, F.R.I.B.A., of Manchester, for allowing him to include the illustrations on Plates VI and VII; and to Mr. J. H. Rudd, of Barnstaple, for most valuable assistance in compiling the chapters on veneering and marqueterie, and for preparing the black-and-white drawings which appear in the text of the chapter on veneering.

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THE PRACTICAL DECORATION OF FURNITURE

VOLUME ONE

THE PRACTICAL DECORATION OF FURNITURE

I—VENEERING

THERE is, perhaps, no method of decorating furniture so little understood by the general public as veneering. It is commonly supposed to be a questionable practice—the covering of an inferior material with some better wood ; this idea probably gained currency from such books as *Our Mutual Friend* in which Dickens describes the " Veneerings " thus :

" Mr. and Mrs. Veneering were bran-new people in a bran-new house in a bran-new quarter of London. Everything about the Veneerings was spick and span new. All their furniture was new, all their friends were new, all their servants were new, their plate was new, their carriage was new, their harness was new, their horses were new, their pictures were new, they themselves were new, they were as newly-married as was lawfully compatible with their having a bran-new baby, and if they had set up a great-grandfather, he would have come home in matting from the Pantechnicon, without a scratch upon him, French polished to the crown of his head.

" For, in the Veneering establishment, from the hall chairs with the new coat-of-arms, to the grand pianoforte with the new action, and upstairs, again, to the new fire-escape, all things were in a state of high varnish and polish. And what was observable in the furniture, was observable in the Veneerings—the surface smelt a little too much of the workshop and was a trifle sticky."

All this is wonderfully clever, but the inevitable effect on the mind of the reader is to belittle Veneering as a very shoddy sort of man, and so convey the impression that veneering is a shoddy kind of process. However it may have arisen, there was a wide-spread idea at the end of the nineteenth century that veneered furniture was poor furniture. Proof positive of the value of veneering is afforded by the work of the great eighteenth-century

cabinet makers in Great Britain and France: the liberal use they made of it disproves completely the erroneous notion that veneering was a method only adopted by manufacturers of cheap furniture for the purpose of concealing inferior wood and bad workmanship.

Veneer is wood cut into very thin sheets, either by means of a saw or a knife. When a baulk of timber is sawn, in the majority of instances, the wood is comparatively plain and uninteresting, but in others it is characterized by the most beautiful grain—so beautiful and so rare that it would be foolish in the extreme to cut it into planks and build up furniture from it. It would be equivalent to constructing a piece of furniture in solid ivory—if that were possible—instead of overlaying it with ivory. Some most attractive effects are obtained by halving and quartering the veneers so that the marking is displayed to the best advantage. This could not be effected if the figured wood were used solid.

There are also certain timbers which are unsuitable for constructional purposes but which are beautiful in grain and colour. The oyster-shell veneer which is cut at right angles to the length of the trunks of small trees like the laburnum is an instance of this. English Burr walnut, which is used so extensively for veneering, is not very satisfactory for construction on account of its tendency to warp and twist, but it is a wood which is indispensable for the surface decoration of furniture.

Not many years ago veneers were all cut with the saw and by hand, and naturally they were very thick and much wood was thereby wasted.

Now, fine woods are either sawn or sliced by a knife in a veneer machine, or sometimes cut " round the tree " by a rotary veneer machine. Rotary-cut veneer is not used for decorative purposes but for the manufacture of plywood. Wood is sawn into veneers when the wood does not lend itself for " knife cutting," being either too hard or too " curly " in the grain to cut smoothly. In this method there is a good deal of waste, because half the wood is lost in " sawdust." A specially large saw is used, circular in shape and with a diameter of twelve to eighteen feet. The set of the tooth of the saw is very fine, the teeth are small, and the whole machine is most carefully

constructed to cut veneer as thin and as smoothly as possible, and with a minimum of wastage. The very hard woods are usually sawn—such as kingwood, tulipwood, ebony and satinwood, and very highly figured woods, such as Puerto Rico satinwood, figured Spanish mahogany, or mahogany curls, and also veneers which are required of larger dimensions than the knife can conveniently cut. A good deal of judgment is necessary in deciding whether a log or flitch should be sawn or cut with the knife. Generally wood is sawn which will not cut smoothly or take kindly to the knife-cutting process. If wood which is not suitable is cut with the knife the

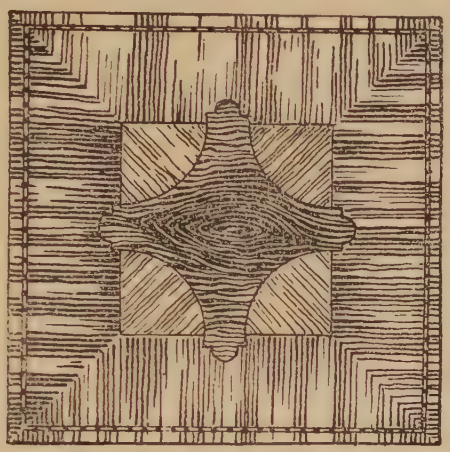

Fig. 1

grain of the wood is frequently " torn " or " distressed " in the cutting. Such veneer gives trouble and difficulty in working.

There are two processes for cutting veneers with the knife. The first —and more important to the decorative trades—is the flat cutting or slicing process. In most machines of this type the carefully selected flitch of wood is fixed on to a heavy iron table within the machine. The knives vary in length, according to the size of the machine, and mostly are from seven feet to ten feet. The knife is mounted upon a large iron carriage, which slides backwards and forwards over and across the table. The knife and all operations connected with the machinery are capable of very fine adjustment and accurate work. As the machine operates, the table is automatically raised

by the thickness of the veneer which is to be cut, and the knife—as it comes forward—takes the veneer off, in a manner similar to that of a plane taking off a shaving. The knife always cuts the wood " across the grain." It matters not how perfect the veneer machine may be, a log will never cut so smoothly right across the tree, as it will if the veneer is quarter cut. In a veneer cut across the " crown " or " heart," however well one side is cut, the other is sure to be " plucked " or " torn out."

Before the flitch is placed on the machine it has to be warmed (steamed or boiled), and here long experience is necessary to know just how to treat each particular piece of wood, the temperature required, and the length of time necessary in the process.

The correct thickness of a knife-cut veneer is a matter of importance. If too thin the glue comes through too freely, and the result is that the polish is placed on to a glue impregnated area. If too thick, the grain of the wood is distressed in process of cutting. Long experience leads to the conclusion that the best thickness is $\frac{1}{28}$ inch or $\frac{1}{30}$ inch, for in this thickness quality of cutting can be combined with sufficient substance for ordinary needs. This remark does not, of course, apply to the rotary cutting where veneers are required very often of a thickness up to $\frac{1}{4}$ inch or even $\frac{3}{8}$ inch for the manufacture of plywood, or other constructional work. Reference is made here only to veneers to be used for decorative work, which have to take and retain a brilliant polish.

Undoubtedly the best solid core for veneering upon is quartered Whitewood—thoroughly mild, dry and straight—or for very high-class work, quartered Honduras mahogany. Such stock should be cross veneered with a beautifully cut quartered American whitewood or mahogany veneer, again selected for its mildness or straight grain. On to this " bed " is laid the outside veneer, which has been most carefully selected for its beauty, smooth cutting and quality. The panel would, of course, have to be treated similarly on the reverse side, but the outside back veneer need not be so carefully selected for beauty or quality of cutting.

After veneer is cut, it should be air dried, in as normal a temperature as possible. It must not be hurried in drying, nor may it be dried

mechanically. Veneers for plywood manufacture and constructive work are dried in a mechanical dryer, but veneers for decorative work will be spoiled if forcibly dried.

Proper provision should be made by the cabinet maker to store veneers. The storeroom should not be too dry, free from draughts, and of ample space to turn the stock over to examine and select suitable veneers for particular jobs. It is undesirable to have veneers stored in a shop where the sun penetrates, and where the temperatures vary greatly. A cool place

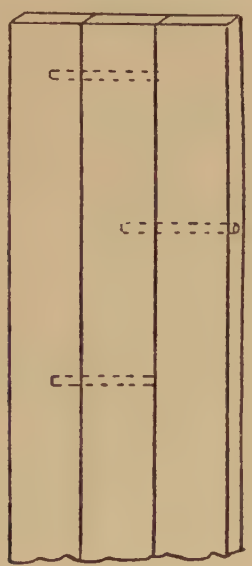

FIG. 2

FIG. 3

artificially lighted is best—and these conditions are usually present in an underground storeroom, which should be properly ventilated and have rack accommodation for the veneers to rest upon.

The greatest care is necessary in preparing the groundwork of panels or doors which are subsequently to be treated with veneer; the slightest warping, twisting, or opening of the joints will be apparent in the finished work, and therefore unusual precautions must be taken to guard against such faults. Doors when treated with veneers are often finished flush; such flush doors require special treatment to avoid the joints showing on the surface of the work after polishing, and well-seasoned wood that will

not twist must be used. It is highly important that doors of unusual length shall not warp in the slightest degree, because this fault is so easily detected. Perhaps the best way to proceed is to make the door of well-seasoned mahogany cut into strips about three inches wide ; these pieces should lie about the workshop exposed to the air for a week or two before being used. Two of the pieces should then be jointed together by means of the usual

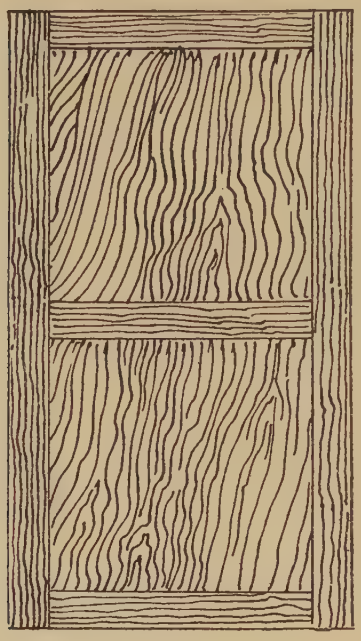

Fig. 4

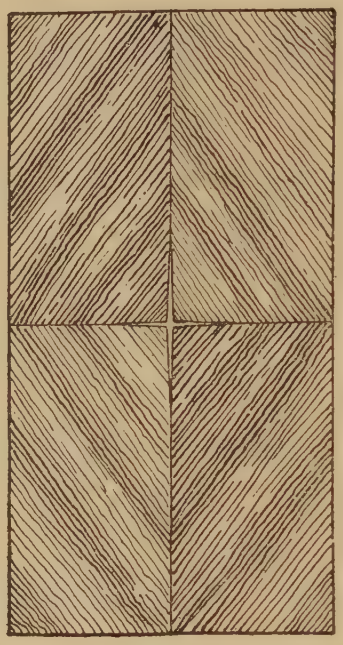

Fig. 5

rubbed joint, and when dry, dowels should be put through one piece and half-way through the other (as shown in Figs. 2 and 3). All the necessary pieces should be put together in a similar way, jointing on one piece at a time and dowelling as before, the dowels used to joint successive pieces being so placed that they will not come into contact with those already driven home. When the jointing is completed the face of the door is levelled and toothed, that is to say, the surface is slightly roughened by means of a plane in which the edge of the knife has a series of small serrations. A door slightly curved on plan such as is shown in Fig. 13 should be built

up in a similar way. Sometimes flush doors are made as frames with the panels flush, that is to say, the rails, styles and panels are all of the same thickness. This method is not so satisfactory as building up in narrow pieces, for in a flush panel door the grains in the various pieces of wood often "pull" in different directions, and consequently warping takes place. With age, and when exposed to trying climatic conditions, the joints of the panels warp and cracks show in the veneers when the work is finished.

The building up of a flush panel door is shown in Fig. 4.

Veneers reach the cabinet maker from the veneer merchant looking rather

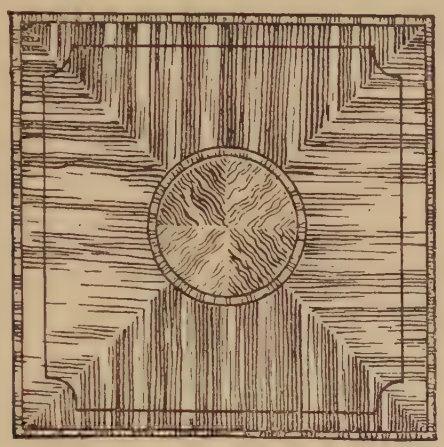

Fig. 6

like a solid plank or baulk, but in reality they are laminated and consist of a great number of loose sheets of very thin wood or veneer. It will be obvious that the grain in any given layer of veneer is very similar to that in the sheets lying immediately above or below it, and it is this which enables the skilful cabinet maker to obtain those delightful effects by the simple expedient of taking two adjacent veneers, cutting them down the centre and laying them in such a way that the markings are symmetrical on either side of a central line as Fig. 14, or quartering them as in Figs. 5, 8, 11, 12 and 13. The effect is obtained by the pattern formed by the grain when halved or quartered, by the play of light on the veneers, and finally by the use of borders, bands, lines, and marqueterie. The decorative value of curls, feather, mottle and other kinds

of " figure " in veneer is possibly more appreciated to-day, and more used in furniture than at any other previous period.

When quartering veneer care must be exercised in arranging the grain. Each quarter must be taken from the same stock of veneers and the lines of the grain must be carefully matched so that they meet. This can be done most effectually by working to the most decided markings. Success in this method of using veneers depends entirely on careful planning and the match-

FIG. 7

ing of the markings in the wood as closely as possible. The play of light on such diagonal markings gives beautiful effects, oak, walnut, mahogany, satinwood, sycamore and silver-grey veneers are halved or quartered in this way. In jointing quartered veneers they should be so cut that the centre is left slightly open as shown in Fig. 5. This is necessary because the veneer shows a tendency to swell across the direction of the grain, and there is consequently a thrust towards the centre which, unless allowed for, would result in open joints at the ends. When jointing long pieces of veneer difficulty is experienced in making a perfect joint from end to end, but if pieces of

linen are glued across, they shrink when drying and so pull the joint together. Afterwards the joint is papered along its full length and the veneer is laid before either the paper or the linen is removed.

Some classes of veneers can only be obtained cut with the knife (knife-cut), and others only cut with the saw (saw-cut), and knife-cut is very much thinner than saw-cut veneer. When it is desired to obtain certain effects it

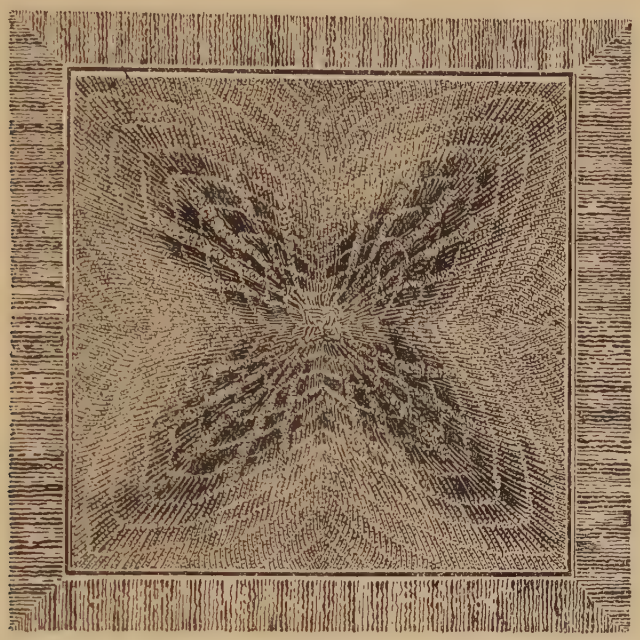

Fig. 8

is necessary to use these two together and the difference in the thickness is a difficulty to be surmounted. The knife-cut veneer should be covered with paper by means of thin glue to make up the deficiency in the thickness, the side that is covered with paper being laid upwards. After this is done both the knife-cut and saw-cut veneers will be firmly bedded on the ground when pressure is applied. If this or some similar plan is not adopted the difference in thickness is made up in glue, which does not get pressed out under the thin knife-cut veneer. When cleaning off with sandpaper the the risk of spoiling a knife-cut veneer is very great.

DECORATION OF FURNITURE

The use of veneer in the treatment of panels is indicated in the accompanying drawings ; materials and methods are suggested below.

Fig. 1.—Mahogany curl in centre surrounded by a boxwood stringing. The square centre surrounded by black stringing. Black-and-white stringing on the outside. The ground is of mahogany quartered and cross-banded. The effect in this case depends on the difference in the direction of the grain and varying depth of colour as indicated in the sketch. Page 5.

Fig. 6.—Quartered greywood centre surrounded by cross-banded tulipwood. Ground of mahogany with cross-banded tulip on the outside. Page 9.

Fig. 7.—Jointed mahogany curl in centre surrounded with black stringing. Mahogany ground with cross-banded kingwood margin and black and box stringing. Page 10.

Fig. 14.—Two mahogany curls jointed in centre with a margin of cross-banded mahogany. Page 16.

Fig. 8.—Quartered mahogany curls surrounded with a margin of cross-banded mahogany. Between the ground and the margin is a small raised and moulded bead. Page 11.

Fig. 10.—Two flush doors with small bead in centre, ground and oval centre of dark satinwood. Fishtail margin and ground of inlaid oval band light satinwood. Shaped centres of corners in kingwood. Alternative treatment. Ground and oval centre dark mahogany. Fishtail margin lighter mahogany. Ground of inlaid band in satinwood. Stringing and inlay in various greens. Page 13.

Fig. 9.—Amboyna centre with cross-banded mahogany surround. Outside banding of zebra, with narrow box lines on each side, husks, etc., of boxwood. Mahogany ground. Page 13.

Fig. 11.—Treatment of a panel with mahogany veneers. Curl centre. Page 14.

Fig. 12.—Centre of bird's-eye maple stained grey. All stringing purple or bluish green. Quartered ground and cross-banding of greywood. Page 14.

Fig. 13.—Door curved on plan veneered with quartered mahogany. Black stringing between the quartering and the fiddle-back mahogany margins. The play of light on the quartering and the curved surface makes this treatment very effective. Page 15.

VENEERING

Veneered furniture is generally characterized by a certain squareness and formality, the aim being to obtain continuous surfaces on which the colour and mottling of the veneer may be displayed to the greatest advantage. The decoration of furniture by veneering is in reality evidence of the cabinet maker's appreciation of the beauty of the material in which he is working, and the ultimate effect of the process depends very largely upon the careful

FIG. 9

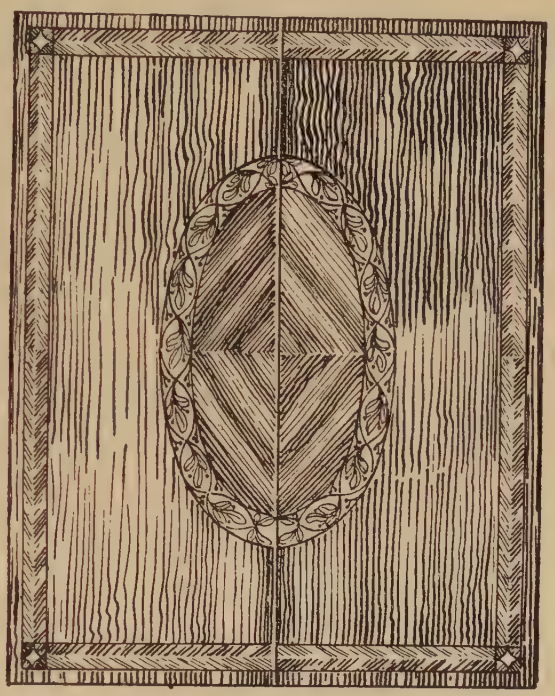

FIG. 10

choice of veneer for different positions in the design. It is not sufficient for the architect or designer merely to specify, say, burr walnut, because this material differs largely in various trees, both in colour and markings. A careful designer would insist on seeing the character and quality of the veneer for himself before it is laid. Perhaps the most general fault in the choice of veneers for the decoration of furniture is either that the material has markings which are too large in scale or that it is too pronounced in its colour contrasts. A pleasantly broken or mottled surface should be the aim

rather than striking contrasts of colour or marking. Veneer properly employed should lend richness to the surface of furniture and enhance its decorative value rather than distract the eye by markings too highly ornamental.

The chest of drawers, Plate I, lacks interest but for the finely figured

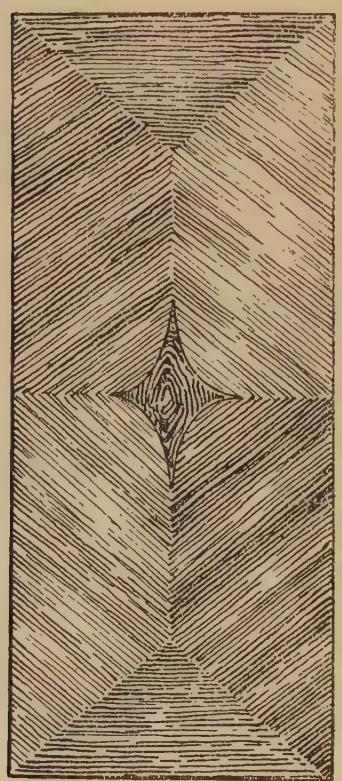

Fig. 11

Fig. 12

walnut with which it is covered, the decorative value is in the veneer itself. The highboy in the Metropolitan Museum of Art, Plate II, is veneered with burr walnut, the drawer fronts being surrounded by what are known as fishtail margins. The English cabinet, Plate V, is an example of oyster shell veneering. In such work decorative use is made of the annular rings of laburnum and other trees, thin slices of wood being cut from the trunks and boughs of trees at right angles to their length. A typical Dutch piece

is illustrated, Plate III, in this case added interest is given to the oyster-shell veneer by the introduction of several eight-pointed stars in marqueterie.

The satinwood cabinet of English design, Plate IV, is a typical eighteenth-century piece which shows the effect of a veneered surface with cross-banded margins. Plates VI and VII are examples of modern furniture

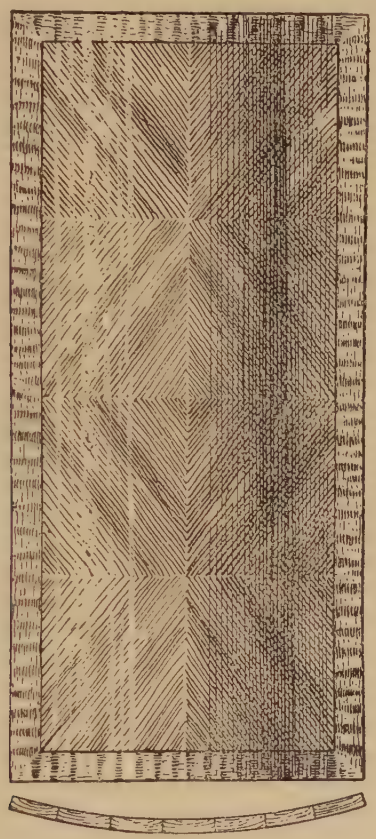

Fig. 13

designed by Mr. J. H. Sellers. These wardrobes are quite plain and straightforward in general form and construction, their decoration depending entirely on the careful choice and discriminating use of the finest veneer. Indeed, it is evident that this furniture has been expressly designed to display finely figured wood. Cuba mahogany curl veneer is the material used. The extraordinary skill with which the French cabinet makers used veneers for the decoration of their furniture is illustrated by the bureau, Plate VIII.

In furniture of this kind it is not a question of applying veneers to flat panels, but to the subtle bombé and curved surfaces which occur so frequently in French furniture of this type. In this piece it will be noticed how the markings of the veneer are used to accentuate the constructional lines of the table.

In the past a veneered panel of very large area has always been a source of anxiety to the cabinet maker, because of the difficulty of forming a core which could be guaranteed not to warp or twist, shrink or swell. That difficulty has, to a very large extent, been overcome by the perfecting of the processes employed in the manufacture of plywood and laminated wood.

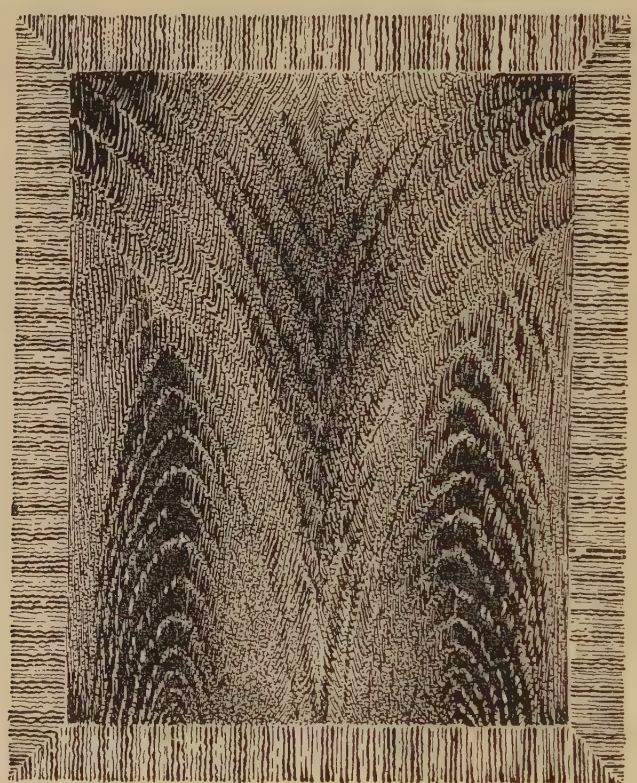

Fig. 14

II—INLAY OR MARQUETERIE

THE inlaying of one material into another to produce a decorative effect is of great antiquity. Much of the furniture found in the tombs of ancient Egypt is decorated in this way, and the craftsmen in primitive communities have used inlays to decorate their weapons and implements. The wooden bowl from the Pelew Islands illustrated on Plate X is inlaid with shell and shows clearly the shallow depressions formed in the surface of the dark wood which were subsequently filled or inlaid with the lighter material. Very much of the earlier work, wherever inlay has been attempted as a decoration for furniture, was in black and white, and it was only as the craftsman became more ambitious and proficient that coloured woods were introduced either with or without shading and engraving.

FIG. 15

The terms inlay and marqueterie are at present used rather loosely and perhaps need some definition. Strictly speaking inlaid work should be regarded as the technique which consists of forming slight sinkings of an eighth or quarter of an inch deep in the solid wood, and then filling the hollows so made with woods of a different colour, cut to fit them. Marqueterie is a later development and is closely bound up with veneering. In marqueterie the ornament is first cut into a thin sheet of wood or veneer and subsequently the veneer and ornament, as one sheet, are applied to the surface of the wood. There is a third term, tarsia or intarsia. It should be used to designate those pictorial effects in wood in the production of which the craftsman used the utmost skill and chose his material

with the greatest care, in order to vie as far as possible with the work of painters.

It is difficult to dissociate the inlay of wood from damascene work in metals, particularly the armour made in the East and Spain. This method of decoration consisted of inlaying metal into metal, and there is a curious link between the two in the type of inlay found in India which consists of a metal wire inlaid into a background of dark wood, producing a black-and-

Fig. 16

white effect (Fig. 15). Ebony and ivory were used by the ancient Egyptians and in early work in the East generally, and it is significant that when, during the Renaissance in Europe, inlaid work was resorted to, it was black-and-white effects which were at first produced. In a geometrical design such as is illustrated in Fig. 16, the question always arises as to whether such work should be described as inlay or mosaic.

There was little inlay or marqueterie in Gothic times ; the builders and craftsmen then relied upon carving, gilding and painting, but the Renaissance workers made the fullest possible use of inlaid work. This is quite natural,

for the process was well known to the Greeks and Romans. Roman craftsmen thoroughly understood the process of veneering with various woods and did not confine their efforts to the sinking of spaces in the solid and afterwards filling them with woods of different colours, cut to fit.

Both in Italy and other European countries the earliest process of inlaying was by forming slight depressions from one-eighth inch to quarter inch deep in the solid wood and then filling the hollows so made with woods of different colours, cut to fit them. During the early Renaissance many of the marqueterie cutters confined themselves to arabesques and scroll work, but others endeavoured to produce the effects obtained by painters, a movement which gathered strength with the increased knowledge of the use of acids and stains for treating the wood. The tendency to imitate painted work was so great that in the seventeenth century we find the following note in a description taken from a technical book published in Germany : " Woodworkers paint with thin little bits of wood which are coloured in different ways."

The illustration, Plate XV, is a self-portrait in tarsia of Antonio Barili, one of the most famous of the Italian intarsiatori of the Sienese school. A great deal of his work has perished, but in the Museum of Art and Industry at Vienna this interesting panel is preserved. The portrait is of Barili at work, and is valuable as showing the simple tools used. At the bottom of the picture is a folding knife, on the left a gouge with a square handle, while the principal tool is a long-handled, short-bladed knife, which is held in the craftsman's left hand and steadied against his shoulder when in use. This panel dates from the beginning of the sixteenth century, the inscription on the tablet being as follows :

" Hoc ego Antonius Barilis opus coelo non penicello excussi. Anno D., 1502."

Every piece of marqueterie or inlaid work made by this method was unique, and it was only with the introduction of the fretsaw that it became possible to produce some half-dozen examples of the same work at one sawing.

As marqueterie applied in the form of veneers depends for its durability

on the quality of the adhesive used and the atmospheric conditions to which it is subjected, various expedients were employed to ensure that this form of decoration should last as long as the furniture which it embellished. In the South of Europe, notably in Spain and Portugal, ivory and ebony pegs were used to give added strength to the work, and the black and white spots thus formed served to enhance the decorative effect.

There are several variations in the actual process of the cutting of the ornament to fit into the background. One way is to attach the paper design to the veneers which are to form the ground and then cut out the whole of the pattern. The pieces of veneer which will form the ornament are then cut from different woods and fitted into their places. An alternative to this method is the fixing of the paper design to the ground with a suitable adhesive and pasting on to it the cut veneers forming the actual ornament and then using the edges of these as a guide for the saw in cutting out the ground. Other expedients also are employed, but all of them aim at exactitude in following the lines of the pattern with the saw in order to ensure that the ground and inlay shall fit exactly.

To the materials used there is practically no limit, and the shades to be obtained in natural woods range from black through warm browns, reds and yellows to the white of sycamore and holly, and this choice of colour is augmented by dyed woods of all kinds. The tendency of inlaid work is to fade and become mellow with age, hence the introduction of any material such as mother-of-pearl, which does not mellow with time, must be carefully considered if a spotty, unequal effect is to be avoided. Ivory and bone were both used with discrimination by the Italians, notably in the decoration of their musical instruments. An endless variety of effect may be obtained by the use of marqueterie ; simple lines may be introduced as borders, the whole ground may be broken up in a geometrical pattern—the parqueterie of the French. The ornament may be formed of the finest lines as in what is called seaweed inlay ; it may be highly conventional or naturalistic in the extreme, and in the more elaborate work of the Italians there can be no question of inlay in the exact sense of the word at all ; the effect is entirely pictorial and consists of a variety of woods specially chosen for their quality

of grain and colour, skilfully matched, cut to shape, and fitted together to obtain pictorial effects.

In modern practice inlaid work or marqueterie is first worked as veneers, and then applied to the prepared surfaces of panels or other parts of furniture.

FIG. 17

The designer first produces a design, and unless the ornament is represented by a fine, clean outline it is necessary for the marqueterie cutter to re-draw or trace the pattern, and produce a drawing in which every line and detail is perfectly clear. This design is then fixed over a thin, strong paper—for example, a tough tracing cartridge paper—and by means of a

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fine pointed instrument like a needle the outlines of the pattern are traced with small dots pricked through both papers. The action of the needle in perforating the paper will leave minute projections on the under side of the lower paper, and these should be rubbed down with a piece of the finest glass-paper obtainable, so that each perforation is, as far as possible, exactly circular in form and unlikely to be clogged by the small projections. If a pricking made thus, Fig. 18, is held up to the light, the pattern will be visible in the form of tiny holes in the paper. This can be used as a " pounce " by placing it over another piece of paper and dusting finely ground asphaltum through the holes. Asphaltum is obtainable commercially in hard pieces, and must be ground before using to a very fine powder. The asphaltum is pounced through the paper by means of a wad made by winding a piece of felt or baize together tightly (rolling it up like a puttee). The end of this dipped into the powder holds a small quantity, which is pounced through the holes with a slight hammering motion. When this fine powder is dusted through the holes in the pounce it lies in a series of small dots on the paper below, which is then placed for a few moments over a gas ring, oil stove, or other suitable arrangement in order that the heat may melt the asphaltum and fix it permanently on the paper. This is done quite easily and it is unnecessary to expose the paper to the heat long enough to discolour or burn it in any way. Within reason any number of patterns may be obtained from one pricking by this method. The perforated paper or pricking should be carefully kept from any contact with grease or oil, because asphaltum is soluble in these.

It will be seen that the process of reproducing the pattern for the use of the marqueterie cutter is very simple, and the necessary plant is not costly. The machine in general use is known as a " donkey " ; it is generally accepted that a machine of this type was used by the celebrated French marqueterie cutters of the eighteenth century. Sometimes an ordinary fret cutting machine in which the saw is held vertically is employed with the table (through which the saw runs) fixed at a slight angle to the saw, but work from this type of saw is not considered so satisfactory as that produced by the aid of the " donkey." Ready-made saws can be obtained, but the

experienced cutter prefers to make his own by hand, the reason being that he can get the " cut " to last longer than is the case with machine-made saws, and he can make the teeth fine or large and with as much set as he needs for the purpose of cutting different materials ; for example, the teeth for cutting metal or pearl differ from those employed for the cutting of wood, being more vertical and finer.

The machine, or " donkey," consists of a horizontal frame hung loosely on a steel rod, which passes through two pieces of wood suspended from a wooden bar attached to the framing on the right of the operator. Plate IX. This bar is not fixed rigidly, but centred in such a way as to allow a swinging motion, imparting to the saw frame itself a slight movement from right to left, and vice versa. The saw itself is held firm by steel clutches tightened by means of thumbscrews. This construction allows the operator to use the saw with considerable freedom ; he is able to move it to the right or left when sawing curves. Although with this machine the left hand of the operator is constantly employed in altering the position of the veneer to various angles as the pattern requires, the veneers themselves (several are cut at a time, as will be explained later) may be firmly held by means of an upright clamp, placed directly in front of the seat. The clamp is hinged and fitted with a spring, and in the centre of the top edge a small " V " is cut away. This clamp forms a sort of third hand for holding the work, and the pressure is adjusted by the foot by means of a treadle which is connected with the hinged clamp. The operator sits astride the stool and works the saw frame backwards and forwards with the right hand, while with the left he turns the veneers about in order to facilitate the cutting of the pattern. When turning sharp corners he shortens the strokes of the saw, eases the forward pressure and at the same time turns the work in the required direction.

Inlays and veneers are rarely cut singly. It is not advisable to cut less than three at once, and as many as six may be cut without detriment to the work. A piece of veneer of basswood or any other inferior wood is placed at the back of the more costly veneers, to take all the burring and breaking away of the edges caused by the saw, and by this means the edges of the veneers

themselves are kept sharp and clean. In the case of only one piece of marqueterie being required, the veneer is placed between two inferior veneers, because, in practice, it is found that a good clean outline cannot be made in one piece of veneer when cut without any support, and apart from this the single veneer is rarely, if ever, strong enough to withstand the action of the saw without damage.

The half-dozen veneers which are to be cut are held together with special fine steel pins. Before these are driven through the veneers the points should be nipped off with cutting nippers to prevent splitting of the wood. After they are driven through the veneers the projecting part is nipped off, and the rough points riveted down with a hammer or a piece of metal—a flat-iron with the handle removed is often used for the purpose. When pinning the veneers together marqueterie cutters never use more pins than are absolutely necessary and drive them through in such positions that no unsightly holes will be made in the groundwork or background of veneers in which the pattern is inlaid. Having treated the veneers which will form the background, various woods which have been chosen for the formation of the pattern or design are selected and made up separately and fastened together by the same method as described for the groundwork, and always with a piece of inferior veneer at the back. When pinned together these small pieces are called " packets " in the trade. To the top veneer of each of these packets is gummed a pouncing of some portion of the pattern which it is desired to inlay with that particular wood.

A " donkey " such as has been described, will take work of a fairly large size, but if the design is a very long one it is impossible to turn it freely as it will engage the far end of the saw frame instead of passing it freely. In such a case the ground must be cut ; this should be done in such a way that the joint will not show more than is necessary when the work is finished. The method generally employed is to cut from one edge across the centre to the ornament, follow one side of the pattern, and then cut through to the farther edge. When cutting across the groundwork the line should be slightly waved ; this allows the veneers to be placed more readily in their original position when finally fitted together, and in the majority of woods a waved

line is less likely to be noticed than a straight one. This division of the ground should not be resorted to if it is possible to avoid it, and as far as the question of material is concerned it is not advisable to use knife-cut and saw-cut veneers together as this inevitably leads to trouble in laying. It may also be mentioned as a matter of general interest that knife-cut veneers present rather greater difficulties in handling than saw-cut veneers.

The marqueterie cutter also needs to complete his outfit a drill for boring the veneers in order to let the saw pass through them, as a bradawl would inevitably split them ; an oil can ; a small hammer ; watchmaker's tweezers ; a flat piece of thick iron—a flatiron with the handle off serves the purpose well—a glue pot ; a penknife ; a superfine file ; a wood saw vice ; a fine needle inserted into a short wooden handle for pricking the patterns as described ; an oil stove or gas ring, and a shallow iron on brass tray to hold silver sand in order that it may be heated for shading the inlaid work to give added interest and definition to the pattern. The graduated shading is done thus : before the individual pieces forming the pattern are inserted in the ground they are browned or scorched by placing them in hot silver sand. This is spread on a metal plate over an oil stove or a gas ring or other heating device, and when it is warmed sufficiently the piece of veneer to be shaded is placed, face downwards, pressing it gently into the hot sand and withdrawing it repeatedly to ensure that the shading is not overdone.

A pair of tweezers is necessary to hold the small pieces during this operation. Care must be exercised to avoid charring the wood ; if the sand is piled up it will to some extent prevent this. The shading should never be dark enough to destroy the markings or mottling of the woods. There is practically no limit to the variety of effect that can be obtained in this manner, but the process requires patience and should on no account be hurried. Shading must not take the place of careful selection of woods, for marqueterie should depend as much as possible for its effect on the varied shades, markings and colours of the woods in their natural state.

The work has now reached a stage when we have a ground pierced to take the ornamental pattern, and a great number of separate pieces of veneer

cut exactly to fit the spaces left in the ground, and it is now necessary to put the work together. In order to do this the veneer which forms the ground should be pinned to a piece of wood slightly larger than the out-to-out dimensions of the work, with a piece of paper inserted between the veneer and the wood. As few pins as possible should be used, and they should be of the same size as those employed in the preparatory stage already referred to, but with the heads nipped off. In the spaces in the groundwork left for the ornament brush a little gum, not too much at once, but just enough to hold a few pieces of the pattern. When these are placed in position another patch can be gummed, and the task of fitting in the small pieces resumed. As the work progresses it is advisable to place flat lead weights of a handy size upon the work, more especially on the larger pieces of the ornament which have been placed in position. When completed rub in round the joints thin glue mixed with some of the fine sawdust from the cutting of the groundwork. This is invariably done, even in the finest work, otherwise there would not be the necessary cohesion between the ground and the ornament to allow of its being handled before it is finally laid in position. The glue on the surface is not allowed to set but is scraped off immediately, and a piece of paper is gummed over the whole of the upper side of the work. It is then pressed, a piece of felt being placed between the upper caul and the work. When sufficiently dry it is released from the press and the nails removed. The next step is to clean off the paper from the back of the veneer (that which was on the underside when the separate pieces were being gummed into position), leaving the sheet of paper which was last applied, which should remain on that side of the work which will be uppermost when the veneer is laid on the panel which it will serve to decorate. All finished work should be kept between boards to ensure perfect flatness of surface.

The ultimate success of marqueterie depends on the training and skill of the craftsman in drawing and design, on the taste he brings to bear on the arrangement of the various details, combined with a steady hand and a well-trained eye.

Engraving is sometimes resorted to on the surface of the work, but the best compositions of the Italian intarsiatori prove that it is unnecessary even

when portraying the human figure ; when the process is employed the work is done after the first coat of polish has been applied.

Gravers are obtainable of varying thicknesses for different effects, the larger the graver the thicker or coarser the line. To obtain the gradually increased thickness in a curved line greater pressure must be used and the tool passed several times through those parts of the line requiring more breadth. In the best work cross hatching is avoided. When the engraving is complete the lines are filled with melted mastic, to which has been added black, vermilion or any other desired colour. This, after being well rubbed in, is left to set hard and then carefully cleaned off.

DECORATION OF FURNITURE

EARLY ITALIAN WORK

In mediæval times Siena was regarded as the headquarters of Italian marqueterie cutters, and documents show that workmen from this centre travelled to other Italian towns when the finest craftsmanship was in request.

It is possible to illustrate, through the courtesy of Signor Giacomo de Nicola, Director of the National Museum in Florence, one of two little known panels of Sienese tarsia of considerable historic and technical interest. The panels date from the second half of the fourteenth century, and originally, it is thought, formed part of some elaborate piece of furniture. One of the panels depicts the Virgin offering the town of Siena (" accipe civitatem meum et juste guberna ") to a kneeling figure. It is of importance primarily as a fine specimen of early tarsia, but apart from this it is not without historical and topographical significance. Italian authorities hold that it celebrates the handing of the town of Siena to the Emperor Charles IV in 1360. It gives a very adequate idea of the architectural features of the place, and is regarded as the most ancient view of Siena. The companion panel, Plate XVI, apparently symbolizes the response of the recipient : " I will rule with justice, and kill or crown strictly according to the merits of the individual." A Sienese named Francisco del Tonglio may be indicated as the probable author of the work.

There was an account written by Matteo Colaccio in 1486, and quoted by the late Mr. F. H. Jackson in his book on intarsia, which serves to indicate how closely the marqueterie cutters endeavoured to copy the painters. He says : " In past days, in visiting those intarsiad figures I was so much taken with the exquisiteness of the work . . . and to commence with the objects that one sees around every day, here were books expressed in intarsia that seem real ; some are one on the other, and arranged carelessly or by chance, some closed, some newly bound and difficult to close ; candles of wax with the ends of wicks, now in well-turned wooden candlesticks, one straight, one crooked, less or more, with another crossing it. Elsewhere one sees clouds of smoke which spread out from new chimneys, fish which turn round from a full basket, a cithern which hangs from the centre of a narrow nitch . . .

palaces, towers and churches, through the half-closed doors of which one can see in the interior arches and windows, cupolas and steps. . . . But what shall I say of the images of the saints ? Of their uncut and curled beards, of their hands, the joints of their fingers, their nails ? Of their clothes, their sinuous folds and the shadows ? "

A good example of " books expressed in tarsia that seem real " is preserved in the National Museum at Florence. It is an inlaid lectern ; the Psalter which lies open on it, together with the console brackets on which the volume rests, the notes and the accompanying wording are all inlaid with the greatest exactitude, so that at the first glance the visitor imagines that it is actually an open book on the reading desk. On both faces of this lectern is the date—MCCCCLXXXXVIII. (1498).

Much of the most beautiful of the Italian inlaid work or tarsia was made by monks, who spent their lives in working at this craft. These men delighted to show their skill, not only in the dyeing of woods, but in the presentation of buildings and landscapes in perspective, and also in figure composition ; and although they evidently aimed at making their work look as pictorial as possible, the material in which they worked to some extent frustrated their aims, and the marqueterie which they did was decorative as well as pictorial. A contemporary, speaking of one of them, says, " he was as much a genius as is to be found in the whole world in putting together woods with so much art that they appear pictures made with a brush."

Entirely different in character is the chest in wood and bone from the Museo Civico in Turin, illustrated on Plate XII. This is Italian craftsmanship of the end of the fifteenth century, and has been named " certosina " work, though its connection with the great Certosa, Charterhouse or Carthusian monastery between Milan and Pavia, is not clear, for this kind of decoration is not characteristic of the fittings of the church of the monastery. Certosina work, on the contrary, is Indian in type, and manufactures of marqueterie of this kind were probably introduced into Italy from Persia, or farther East, by Venetian merchants. The making of certosina work was subsequently common in Tuscany and also among the Milanese.

In the Victoria and Albert Museum there are specimens of similar workmanship. One of these is a walnut folding table on trestles with intarsia of ivory and another a coffer, Plate XI, inlaid with ivory and coloured woods in minute geometrical patterns. Very different in character from this elaborate work is the bold inlay of the oak chest of drawers, Pl. XI, made in America between 1690 and 1700 in which the simplest means are employed though the result is highly decorative.

The inlaid ash box, Pl. XIX, of seventeenth-century English work has a delightful spontaneity and quaintness, and the breadth with which the ornament is treated renders work of this kind quite as satisfactory, if, indeed, not more so, than many more elaborate pieces. There is a great similarity between South German and Swiss work of the sixteenth century. The Swiss National Museum at Zurich contains a number of pieces which are notable as showing the wide range of decorative effect obtainable by means of this form of ornamentation. The chest, Plate XVII, is worth studying in some detail. In order to strengthen the contrast between ornament and background, light grounds are used as a foil to the ornament formed of dark wood, and in the bottom rail we have an example of counterchange. There is great vigour, and sensitive, rather than perfect, drawing, the outlines suggesting that the work was done with a knife rather than with a fret-saw. The piece affords evidence of the bold, rich effect obtainable when inlaid decoration is treated broadly and without any attempt to multiply the number of woods used. It dates from the year 1707. Much more elaborate work was done in Switzerland and South Germany in the sixteenth and seventeenth centuries, but reference is made to this primarily on account of its directness of treatment. The decoration of the chest, Plate XX, carries black-and-white inlaid work a step further. In this sixteenth-century example, interest is added by inlaid lines, stringings, and ornament in which dark and light woods alternate at short intervals, and a lively sparkling result is obtained. The stringing or banding is no longer all black or all white, but black and white, giving a chequered effect. The semicircular-headed panels between the pilasters are inlaid with heraldic shields. In this chest the inlaid ornament is lower in tone and does not obtrude itself so

much as in the illustration on Plate XVII, the general impression of the front of chest, Plate XX, being that of a pleasingly broken surface.

There is a chest with inlaid panels of architectural subjects, Plate XVIII, dated 1567, which came from Schaffhausen, in the same museum. In this the perspective of the inlays forming semicircular-headed panels is very crude, the buildings being set at curious angles to the black-and-white paving which surrounds them. But more skilful designers and marqueterie cutters carried this sort of work to great perfection, no such curious errors of drawing as those which characterize these panels occurring in the work of the best masters. Examination of the pieces of wood by which the inlayer has indicated the separate stones of the wall shows an early attempt at shading, one corner being darkened by the application of heat in order to avoid what would otherwise have been a flat and uninteresting surface. When these architectural compositions were kept simple very decorative effects were obtained.

On a chest, Plate XXII, in the Schlossmuseum at Berlin, a much more ambitious architectural composition is worked out in inlay. It dates from 1551, and the centre panel represents the interior courtyard of an important building, the perspective being treated with great precision, and the subjects in the flanking panels especially are very skilfully reproduced. It came originally from Lake Constance and is the work of a cabinet maker educated in Augsburg and Italy—H.S. He was the first craftsman to carry out marqueterie in the Italian manner north of the Alps. He also published designs for furniture with his monogram H.S. These took the form of woodcuts (Campbell Dodgson, Early Woodcuts). Another illustration on Plate XVIII is of a nest of drawers enclosed by doors. It is a seventeenth-century example of Swiss origin and represents animals of the chase on an undulating, hilly foreground, while silhouetted against the sky are a series of elaborate country houses and castles. The black-and-white stringing here has become more elaborate than in the chest illustrated on Plate XX.

The Renaissance chest, Plate XXI, is a good example of counterchange. If the semicircular-headed panels are compared it will be seen that the arabesques in that on the left are of dark wood, while those in the panel on

the right are lighter in colour than the ground. The theory is that two veneers were cut at the same time and the ornament sawn out of the lighter wood was placed in the dark background, and vice versa. Counterchange ornament is also a feature of the elaborately inlaid door of Dutch workmanship, Plate XXIV. If the two centre panels are carefully compared it will be seen that the arabesques of the top panel are light on a dark ground, whereas those below, while of exactly the same pattern, are darker on a lighter ground.

This door, Plate XXIV, is another typical example of richly inlaid Renaissance work. The arms are those of the Swedish Lord Chancellor, Axel Oxenstierna, who held office during the reign of Gustavus II. It belonged to the Chancellor's castle, Ticlö, which contains several such doors, but it is not quite clear whether all of them were made in Sweden. Some of them, at any rate, are said to have been ordered from Holland. In these doors there is not only a great variety of motifs, but the effects are obtained in many different ways. The stiles and rails on the door itself are treated with a broad chequer banding, and freely drawn scroll work with conventional floral forms.

There is a richly inlaid buffet in the Schlossmuseum in Berlin, Plate XXIII, which was made in Cologne by Melthior Rheydt in 1610. Biblical scenes are represented : above Cain and Abel, and the sacrifice of Isaac and, on the doors of the underpart, David and Goliath.

Dutch cabinet makers excelled in the production of richly inlaid furniture, particularly favouring floral designs of great intricacy. The late seventeenth-century wardrobe, Plate XXV, is a typical piece, not only are the panels and framing covered with marqueterie, but the mouldings also are enriched by the same process.

Reference has already been made to portraiture in inlaid woods, Pl. XV. In the National Museum at Stockholm is an inlaid portrait of King Gustavus Adolphus of Sweden (1632). It is of contemporary German workmanship, but the frame is Swedish and was made about ten years later.

Great care and artistic discretion are necessary when introducing ivory,

mother-of-pearl and metal into inlaid furniture if unpleasantly strong contrasts and " spotty " effects are to be avoided.

The Dutch seventeenth-century chest, Plate XIII, and Spanish table-top of about the same date serve to illustrate this point. In the chest ivory is used and in the table-top mother-of-pearl and silver.

The late seventeenth-century Indian cabinet, Pl. XIV, is of shisam wood inlaid with engraved ivory.

The nest of drawers enclosed by doors is covered with the very intricate pattern known as seaweed marqueterie, Plate XXVI, and the semicircular commode, Plate XXVII, shows the reversion to classic motives under the influence of the Brothers Adam.

Georg Haupt, who is regarded as the greatest Swedish cabinet maker of the late eighteenth century, was influenced a good deal by the French school of design. His inlaid work shows great care in the choice of materials ; he is represented in the museum at Stockholm by some beautifully inlaid long case clocks.

In France the finest marqueterie is definitely associated with the names of famous cabinet makers. Technically, no finer inlay as decoration for furniture has ever been produced. The cutting in the best French marqueterie is so accurate and the ornament which forms the pattern fits into the background with such exactitude that there is no question of any slight inequalities caused by the thickness of the saw. There is a succession of famous names of the cabinet makers and marqueterie cutters to the Kings of France, who were, from the middle of the seventeenth century onwards, lodged in the Louvre ; in their hands the manufacture of furniture more nearly approached the fine arts than at any other period or in any other country.

Landscape subjects were used as motifs in the first half of the seventeenth century, and the French cabinet makers have always favoured ebony and ivory as materials in which to work. The exact date when the French marqueterie cutters began to use tortoiseshell, brass and copper in the manufacture of what is generally called Boulle work is not known. Although the number of pieces actually known to have been made by André Charles Boulle is small, he set a fashion which was largely copied by his sons and

other cabinet makers, and examples of such work are to be found in all the great cities of Europe. There are genuine specimens of Boulle's work in the Wallace Collection in London, and at the Cluny Museum in Paris ; there is also a fine wardrobe attributed to him in the Musée des Arts Décoratifs in Paris, Plate XXXII. Owing to the fact that he and his contemporaries exercised the greatest possible care in the choice and seasoning of their materials their work has stood the test of time extraordinarily well.

In the Victoria and Albert Museum at South Kensington there are examples of the marqueterie of J. F. Oëben, who was appointed the King's Cabinet Maker in the year 1754. He died some eleven years later and his foreman, Riesener, carried on his work. There is in the Wallace Collection, London, an upright secretaire inlaid by Riesener, which is an example of how technically perfect marqueterie may be in the hands of a master of the craft. Plate XXVIII is another piece of marqueterie by Riesener, which is preserved in the Musée des Arts Décoratifs in Paris, a richly inlaid panel consisting of a basket of flowers above contrasted with the plain drawer fronts below. In obtaining his effects Riesener used rosewood, holly, maple, tulip, purple wood, laburnum, and snakewood. It should be noted that a number of the famous cabinet makers who worked in Paris were of foreign extraction. Oëben was a German ; his foreman, Riesener, was born near Cologne ; and David Roentgen also came from the Rhine country.

Roentgen was appointed cabinet maker to Marie Antoinette. He executed figure subjects with extraordinary facility, and much of his marqueterie was after designs of chinoiseries and pastoral subjects drawn by eminent contemporary artists. He achieved a European reputation, but lost all that he had in the French Revolution. In panels such as that illustrated on Plate XXIX from the Musée des Arts Décoratifs he obtained light and shade, not by burning, but by very skilful drawing and the use of woods of varying tones, these being employed, as a painter would say of his particular technique, in flat washes. It is not generally known that David Roentgen of Neuwied was apprenticed as a cabinet maker in England, but his finished work was all carried out at his workshop at Neuwied on the Rhine, even that which he made for the French Court and for the Empress Catherine II of Russia.

INLAY OR MARQUETERIE

The French cabinet makers made a special study of the backgrounds which they used for marqueterie or inlaid work, either quartering the veneers or using them in the form of parqueterie in such a way as to enhance the design and to create a sense of unity between the ornament and the background, the ultimate effect being well balanced and very beautiful.

Much of the finest French marqueterie was applied to curved or bombé surfaces, which, of course, added to the difficulties of the craftsmen—difficulties which were surmounted in a way which is admired by cabinet makers all over the world.

Tunbridge Ware achieved some vogue during the first half of the nineteenth century in England; it was first introduced as "English mosaic"; all kinds of geometrical patterns, architectural and other designs were carried out in tiny rectangular pieces of veneer.

There was another development of marqueterie not perhaps quite legitimate, but which should nevertheless be mentioned. It was called relief intarsia. In producing this the marqueterie cutter and the carver co-operate and the shaded effect is not obtained by scorching the wood or the use of a graver, but by actual carving in very low relief. There is a specimen in the Landesgewerbe Museum in Stuttgart which represents the dead Christ. In the Schlossmuseum, in Berlin, there are also wood pictures in relief intarsia, representing the Crucifixion and Resurrection of Christ made by Adam Eck in 1670 and signed Adam Eck or Egra. The whole of the work is inlaid, the figures in the foreground being engraved in low relief.

III—GILDING

GILDING is frequently employed in the decoration of furniture. Gold is used either to cover the work entirely or it may be partially treated, the mouldings, carvings, and other decorative features only being gilded. The process is one which needs experience, skill, and, in the final stages, great deftness in handling the gold leaf. The furniture which is to be gilded is first prepared by coating it several times with a mixture of gilders' whitening and size. The number of coats of whitening depends upon the nature of the wood, but the aim is to get a perfectly smooth and even surface. In cases where joints might be likely to open with age or wear the careful gilder covers them with woven silk when applying the first coat of whitening. Each successive coat is allowed to dry very thoroughly, and a layer of gilders' clay and size is then applied with a brush. When the coating of clay is absolutely dry a coating of burnished gold size is applied to those parts of the work which will be burnished subsequent to the application of the gold, and in modern practice those parts which will remain matt are treated with oil gold size. The burnished gold size is made in two colours, red and blue. The Italians and Germans almost invariably use blue, while the French employ red, but there is no such hard and fast distinction in England where red and blue are employed impartially.

The burnished gold size being thoroughly dry the work is ready for the application of the gold leaf. The leaf is placed on a gilders' cushion, which consists of a piece of board about ten inches by five inches with a leather loop below through which the thumb of the left hand is passed. The top is covered with a soft leather pad on which the gold is cut with a gilders' knife. One half of the gilders' pad has parchment sides so arranged that they stand about three inches above the surface to prevent particles of gold from falling when the gilder flattens the leaf on the pad by gently blowing on it. The gold leaf having been spread quite flat by this means, the gilder cuts it to the size he requires. The portion of the leaf to be applied to the work is lifted from the pad by means of a flat camel-hair brush, about as wide as a man's hand, the tip of which the gilder passes through his hair before picking up the gold leaf. The leaf readily adheres to the brush. The position to which it is to be applied having been previously moistened with water,

the gold leaf is placed on it. When quite dry the leaf is rubbed with a burnisher made of agate. All fine furniture both past and present is water gilt in this manner, but in less expensive work gold is applied to those parts of the work which will not be subsequently burnished by means of oil gold size. For instance, in carving consisting of prominent foliage with deep hollows the high lights would be water gilt and burnished, and in the hollows where the gold would remain matt it would be applied not by means of water, but on oil gold size.

Gold leaf is supplied by the beaters in many colours, ranging from white and very pale yellow to deep gold. Gold of a pale green shade is also obtainable.

In German gilding different materials are employed. The building-up process, the employment of whitening and size, gilders' clay and size, etc., is just as has been already described, but instead of gold leaf, silver leaf is applied, treated if desired with a burnisher, and then lacquered with a gold coloured lacquer to give it as far as possible the appearance of genuine gilding. A less expensive method still is to gild the parts that are to remain matt with some metal other than silver or gold, and to treat the parts that are to be burnished with silver. What is known as " German gilding " is inexpensive and effective, but it does not compare favourably in appearance with the gilding which is produced by the application of gold leaf.

IV—PAINTING

THE painting of woodwork was general during the Gothic period and traces of it may be found in many ecclesiastical buildings, but specimens of early domestic furniture painted in bright colours have mostly perished. Some indication of the way in which woodwork was treated may be gathered from the wooden canopy which remains over the tomb of the Black Prince in Canterbury Cathedral, and the tradition survives in connection with the craft of wagon building. In country districts the wagon-builder finishes his work in the brightest reds and blues and yellows, and can usually ascribe no other reason for the choice of the colours he employs but that wagons have always been painted in that way. Paint is a protection, on exterior work, against the weather, and on interior work it served a utilitarian purpose, because furniture, which had become dirty, as it doubtless did very frequently, owing to the inefficient methods of carrying off smoke from the fires during the Middle Ages, could be made fresh and bright again by its use. In the parlours of country inns to this day paint is used thus. The settle, and occasionally the chairs and tables, are painted with some plain colour, green, blue or brown, and repainted when soiled with use. From this simple treatment there springs a great number of other and more elaborate methods of using paint in the decoration of furniture.

One of the oldest and best-preserved pieces of painted furniture in Europe, Plate XXXIV, forms part of the Treasure in the Cathedral at Halberstadt. It dates from the first half of the thirteenth century. It is painted on the inside and outside of the two doors and on the ends with representations of female saints. The painting is to some extent defaced and in one or two places has been restored, but it is, in the main, original and in a better state of preservation than the chests at Bayeux and Noyon, published by Viollet-le-Duc. The lower half of this chest is, as will be seen by reference to the illustration, enclosed by another pair of doors, but these are not painted. The chest, Plate XXXV, is a specimen of Florentine painted furniture, dating from the beginning of the fifteenth century, and representing a procession to the Baptistery in Florence.

The South German painted chest of deal, Plate XXXV, dates from the beginning of the sixteenth century and shows marked Italian influence.

The front of this has a border with a blue ground and gold ornament, and two medallions with heads of emperors, on the right Nerva, and on the left Alexander the Great. The figure subjects from left to right are, the Judgment of Paris, Pyramus and Thisbe, and Samson and Delilah. The other chest is later in date and the under part on which it originally stood is missing. The panels are painted with the coats-of-arms of noble families, and the ends with allegorical subjects—female heads representing Faith and Peace. The main colours here are brown, and dark olive green, and the pillars and architectural forms are of a reddish brown. Much more distinctly German in character is the small marriage coffer, Plate XXXVI. The panel in the front represents Cupid binding the eyes of a man tied to a tree, and on the inside of the cover a messenger presents a playing card to the female figure on the right. The ornament is black and gold, on olive green, and the subjects are in natural colours. The date of this is about 1535. There is in the Schlossmuseum, in Berlin, a painted table-top of Swiss workmanship. It is hinged in the centre, one half representing a bathing scene and the other a game of skittles in a spacious garden. The border depicts a tournament in which the knights who take part bear arms similar to those which are painted to a larger scale at the four corners of the table. There is a hunting scene, and an amusing picture of monkeys who have found a traveller asleep in a wood and are busy plundering him of his belongings. Similar painted table-tops from Switzerland may be found in the Bavarian National Museum, Munich, and there is a very much prized example by Hans Holbein in the museum at Lucerne. The painted table-top, Plate XXXVII, is covered with animal and floral forms, and the painter has also exercised his fancy by including all kinds of implements, knives, scissors, forks, rings and coins.

Graining is simply the painting of a piece of furniture to imitate the colour and markings of oak, maple, walnut, mahogany or other furniture woods. In the hands of a skilful grainer the feather and curl of mahogany and the characteristic markings of maple and oak may be very closely copied. But this treatment has fallen into disuse except for inexpensive furniture.

In passing it should be mentioned that not only wood but marble was imitated by furniture makers in the eighteenth century. In Switzerland,

the Tyrol, and some parts of Bavaria furniture which had already been coated with paint was further decorated by means of free brushwork scrolls; floral and animal forms, some of them quaintly conventionalized, were also employed. In countries where a good deal of painting was done for the decoration of churches this form of embellishment was applied to furniture. There is in the Museum of Art and Industry, Hamburg, a Bavarian cupboard, Plate XXXVIII, dating from 1785, which is a good example of this. The cupboard has a ground of blue, and on this there is a representation of carved rococo scrolls in yellowish brown, and the roses are in red. The figures in the upper panels represent the influence of ecclesiastical art on domestic furniture. In this particular piece the cornice and plinth are painted to represent marble, and there is also a great deal of purely decorative painting.

There is another example, Plate XXXIX, in the Hamburg Museum for Art and Industry which also came originally from Bavaria, and dates from the year 1703, as the figures on the frieze denote. Here graining is employed. The ground is painted to represent quartered walnut, and then the artist has gone further and copied on the four panels, the canted corners and the frieze elaborate inlays of metal and wood. In order to imitate the white metal inlay white paint has been used, and for the many-coloured inlay of wood, yellow, red, blue, black and greenish tones are employed. To the purist this represents a triumph of misapplied skill, because the artist has used painting, not in its straightforward legitimate way, but to intimate with great patience another technique.

In Holland at the beginning of the eighteenth century it became fashionable to paint both fitments and movable furniture with patterns in colour, the wood of which they were made being in some cases completely obscured. Plate XL. The work was somewhat amateurish in character, but objects of all kinds were ornamented in this fashion. The motifs mostly in favour were floral scrolls, small flowers, animals and birds, scriptural scenes, pastoral views and seascapes. The piece illustrated was made and painted at Hindelopen, a village in the province of Friesland in Holland.

Reference has been made to the exact copying of inlay by means of painting. There is a curious example of imitation of ironwork on a chest

preserved in the sacristy of the great church in Zurich, Switzerland, Plate XLII. The first impression of this chest is that its doors are treated with very elaborate hammered iron hinges, but a closer inspection reveals the fact that the metal consists of plain horizontal straps only and that the foliation and decorative work is painted in black on the surface of the wood.

There is a curiosity in the National Museum at Nuremberg which is also worth mentioning. It constitutes a kind of middle step between painted decoration and furniture which is covered with material of one kind or another. It consists of a life-size female figure made of carved pine. The head and shoulders are painted in natural colours, and the corsage and ample petticoat, which are painted green, are filled with a great number of drawers of various sizes, in one of which there is a spinet. The costume of this painted wooden figure is completed by means of textiles—a brocaded dress over which is a shawl of lace—the head-dress consists of a becoming lace cap.

Carving, particularly the free scroll work which is associated with the rococo period, was imitated all over Europe by those who painted furniture. This rococo scroll work could be done with such facility by a painter that it was frequently overdone. In the Swiss National Museum in Zurich there is a wardrobe, Plate XLI, dated 1791, the whole front of which is covered with a succession of painted scrolls, like the double-C scroll work so much beloved by Chippendale. In this particular instance the decoration is of such a character as to destroy the appearance of stability which one looks for in the vertical lines of household furniture.

The painted furniture most generally free from attempts to counterfeit other modes of enrichment is that made by peasant craftsmen, who were content to express by means of free brush-work and bright colours the animal and floral forms with which they were familiar. The degree of conventionalisation is the measure of the painters' ability as designers and their sense of the fitness of things.

Plate XLIII shows Swiss pieces in the Swiss National Museum, Zurich. Various kinds of painted decoration are introduced, from vigorous and highly conventionalised ornament to naturalistic figure and flower subjects of a type approximating to easel pictures. The painted boxes are examples of

the former treatment. The man who decorated these was evidently enamoured of the variety and wonderful colours of the flowers in the Alpine valleys in the early summer. There was no need for him to copy them exactly ; he knew them by heart, and could set them down with the ease and assurance of an educated man writing his signature. There are seven different floral forms on one side of the box alone, while on the top there are other varieties. The reader who is conversant with the profusion of flowers during the month of June in the Swiss and Austrian Tyrol will have no doubt as to the source of the artist's inspiration.

The chest from the Eastern part of Switzerland has five painted panels depicting flowers arranged in elaborate Venetian glass vessels. In the treatment of this also there is great facility and directness in the brushwork, but the characterization of the flowers, so noticeable in the decoration of the boxes already referred to, is missing. The chest dates from 1779. Figure subjects are introduced in the painting of the panels of the Swiss chest, Plate XLIV.

Of interest on account of the direct use of bright colour are a pine chair and oak chest now in the Kunstgewerbe Museum at Cologne. On the chair, a peasant-made piece from the Duchy of Hesse, the ornament is outlined by means of carving and then painted, the colours employed being red, black and green. The chest has a blue ground, the decoration consisting of grapes of dark blue, the leaves and scrolls being green.

In striking contrast to these simple pieces is the example of painted furniture on Plate XLV. This is a seventeenth-century Bavarian wardrobe, with three drawers below. The ground is black with gold lines, the drawers each have four painted panels with red and blue flowers on a white ground, and there are similar floral compositions on the ends. The figure subjects above represent on the left, Power and Riches attended by the nine Muses and three Graces, and, on the right, the Suicide of Dido.

There is an elaborately painted cabinet from the Austrian Alps now in the museum at Vienna; the light ground is covered with swags and bunches of flowers treated with a minuteness which suggests china painting.

This naturalistic treatment also characterized much of the late eighteenth-century painted furniture in England; the charming tea caddies, Plate XLVII, and satinwood dressing-table, Plate XLVIII, are typical examples. The semi-oval table, Plate XLVI, is of painted wood; the legs are fluted and gilt and the horizontal band above is painted. Less skilfully executed but entirely successful in the disposition and "weight" of the ornament is the Irish table on the same plate. It was probably painted by an amateur during the late eighteenth century.

Shortly before the date of writing experiments have been made with painted furniture which have resulted in a treatment which is known as "colour-combing." Graining served a utilitarian purpose in that the grained surface did not show wear and finger marks to the same extent as plain paint, but, on the other hand, there was a feeling that it was insincere and therefore in bad taste to paint and grain an inexpensive wood giving it the appearance of a rarer and more attractive material. More recently the combs used by the grainer have been employed to break the surface of the paint rather than to imitate closely the markings of some particular wood. Painting in the form of free decorative brushwork on furniture has also been revived.

In order to obtain a lasting finish on furniture with paint or enamel several coats—at least four—should be employed, each coat being thinned and mixed in such a manner that the several coats are alternately glossy and flat. This has the effect of binding the successive coats together. The last coat of paint should be flat if a glossy finish is required, and this gloss is obtained either by means of a good enamel or a first-class varnish. If the latter is used the varnish must be elastic or as it is sometimes called, "long oil." Such work properly treated ought to last for many years. The advantage claimed for using a final coat of varnish is that if any ornamentation is done on the undercoat the varnish will protect it.

In actual practice most painted furniture is finished white, the material used being white lead in turpentine with a tablespoonful of linseed oil to 4 lbs. Three or four coats of the above are given and the work rubbed down with fine glass paper between each coat. A final coat of white enamel is then applied. If required dull, the work is rubbed down with pumice

powder and water and polished with a dry chamois leather. A final finish with a little linseed oil and putty powder gives a slight shine on a good surface. When time is limited and it is essential to finish the furniture by a given date a tablespoonful of terebine per 4 lbs. in the priming coats assists drying.

The use of dopes in connection with aeroplane construction during the Great War as a protective covering or finish has led to a good deal of experiment with cellulose nitrate lacquers as a finish for woodwork. The lacquering of small articles such as bathroom furniture and fittings has been practised for some time, but more recently the properties claimed for this type of finish have led manufacturers to investigate its possibilities for the treatment of large surfaces. Research which has been undertaken in connection with the finishing of motor bodies will undoubtedly have an effect on finishes for furniture also.

PLATES

CABINET VENEERED WITH WALNUT. EARLY 18TH CENTURY. ENGLISH. *V. & A. Museum, London.*

HIGHBOY VENEERED WITH BURR WALNUT. 1690–1700. AMERICAN. *Met. Museum of Art, New York.*

CABINET WITH OYSTER-SHELL VENEERS. DUTCH. *Rijks Museum, Amsterdam.*

CABINET VENEERED WITH SATINWOOD. LATE 18TH CENTURY. ENGLISH. *V. & A. Museum, London.*

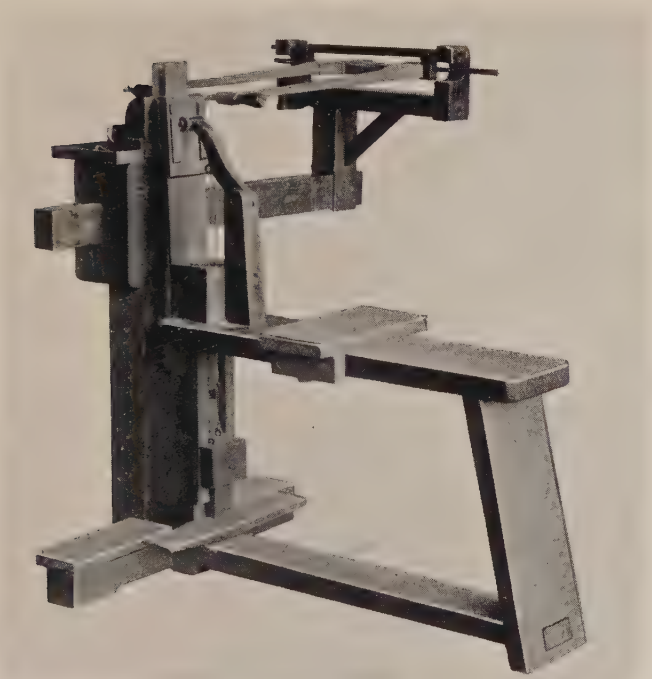
OYSTER-SHELL VENEERING. 1702–1714. ENGLISH. *V. & A. Museum, London.*

WARDROBE VENEERED WITH QUARTERED CUBA MAHOGANY. 20TH CENTURY. ENGLISH.
Designed by J. H. Sellers, Esq., F.R.I.B.A.

WARDROBE, VENEERED WITH CUBA MAHOGANY CURLS AND CROSS-BANDING. 20TH CENTURY. ENGLISH.
Designed by J. H. Sellers, Esq., F.R.I.B.A.

VENEERED BUREAU. MIDDLE OF 18TH CENTURY. FRENCH. *Musée des Arts Décoratifs, Paris.*

MARQUETERIE CUTTER AT WORK.

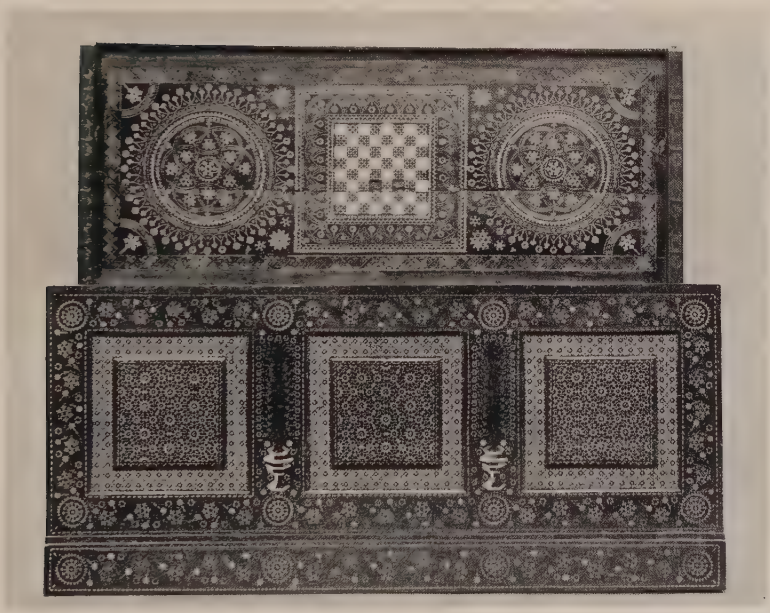


"DONKEY" USED FOR CUTTING MARQUETERIE.

WOODEN BOWL INLAID WITH SHELL. PELEW ISLANDS. *By courtesy of the British Museum.*

BOX INLAID WITH BONE AND MOTHER-OF-PEARL. EARLY 17TH CENTURY. TURKISH.
V. & A. Museum, London.

INLAID CHEST OF DRAWERS. 1690–1700. AMERICAN.
Metropolitan Museum of Art, New York.



INLAID COFFER. IVORY AND COLOURED WOODS. 1500. ITALIAN.
V. & A. Museum, London.

CHEST INLAID WITH BONE. CERTOSINA WORK. END OF 15TH CENTURY. ITALIAN. *Museo Civico, Turin.*

CHEST INLAID WITH IVORY. 17TH CENTURY. DUTCH.
National Museum, Stockholm.

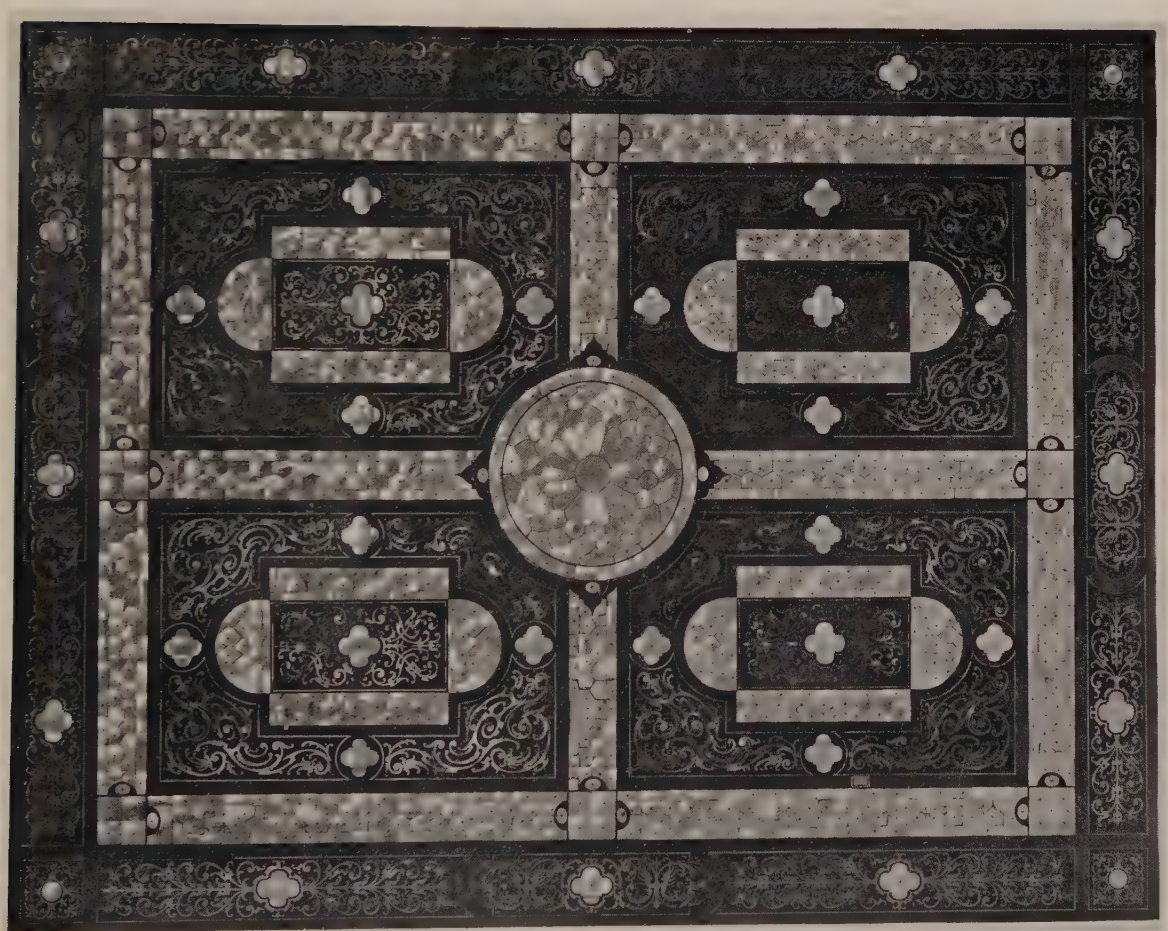


TABLE-TOP INLAID WITH MOTHER-OF-PEARL AND SILVER. EARLY 17TH CENTURY. SPANISH.
Bayerisches National Museum, Munich.

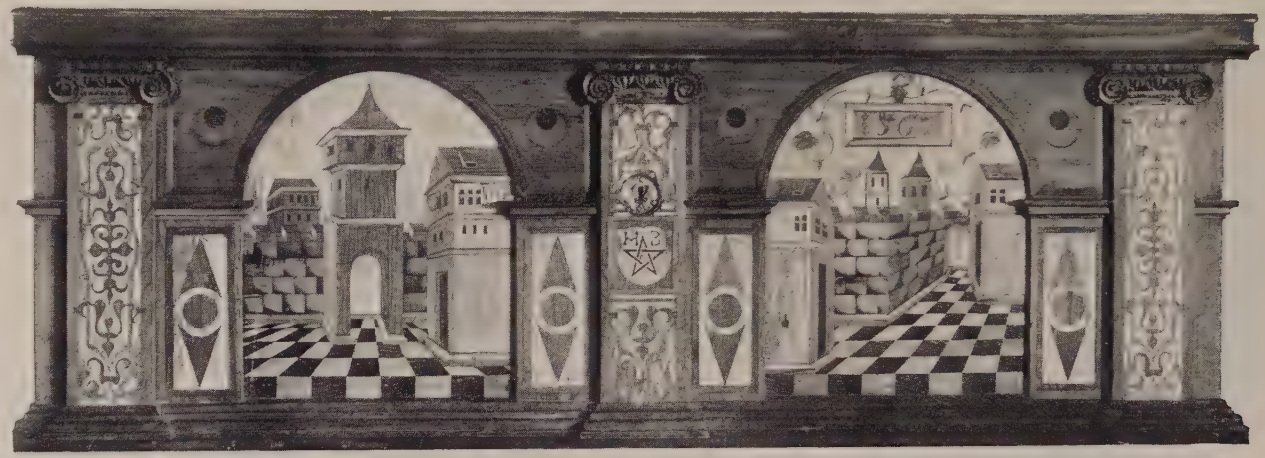
CABINET INLAID WITH ENGRAVED IVORY, LATE 17TH CENTURY. INDIAN. *V. & A. Museum, London.*

SELF-PORTRAIT IN TARSIA OF ANTONIO BARILI. ITALIAN. 1502.
Museum of Art and Industry, Vienna.

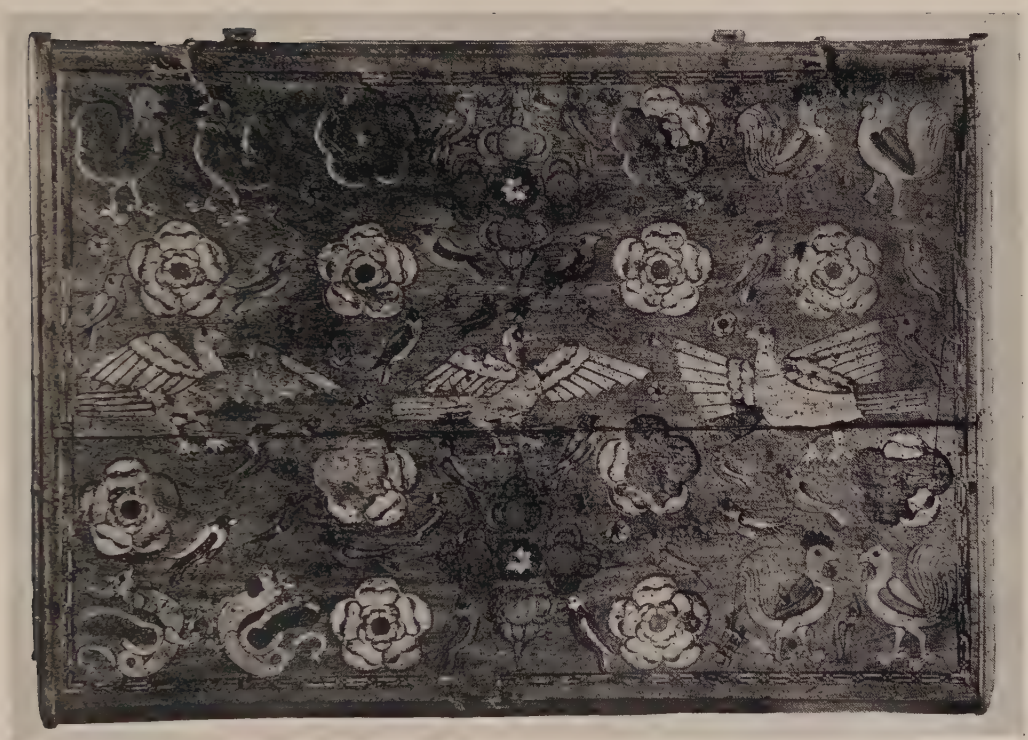
INLAID PANEL. 14TH CENTURY. ITALIAN. *National Museum, Florence.*

INLAID CHEST WITH SILHOUETTE EFFECT. 1707. SWISS. *Swiss National Museum, Zurich.*

NEST OF DRAWERS INLAID WITH HUNTING SCENES. 17TH CENTURY. SWISS. *Swiss National Museum, Zurich.*



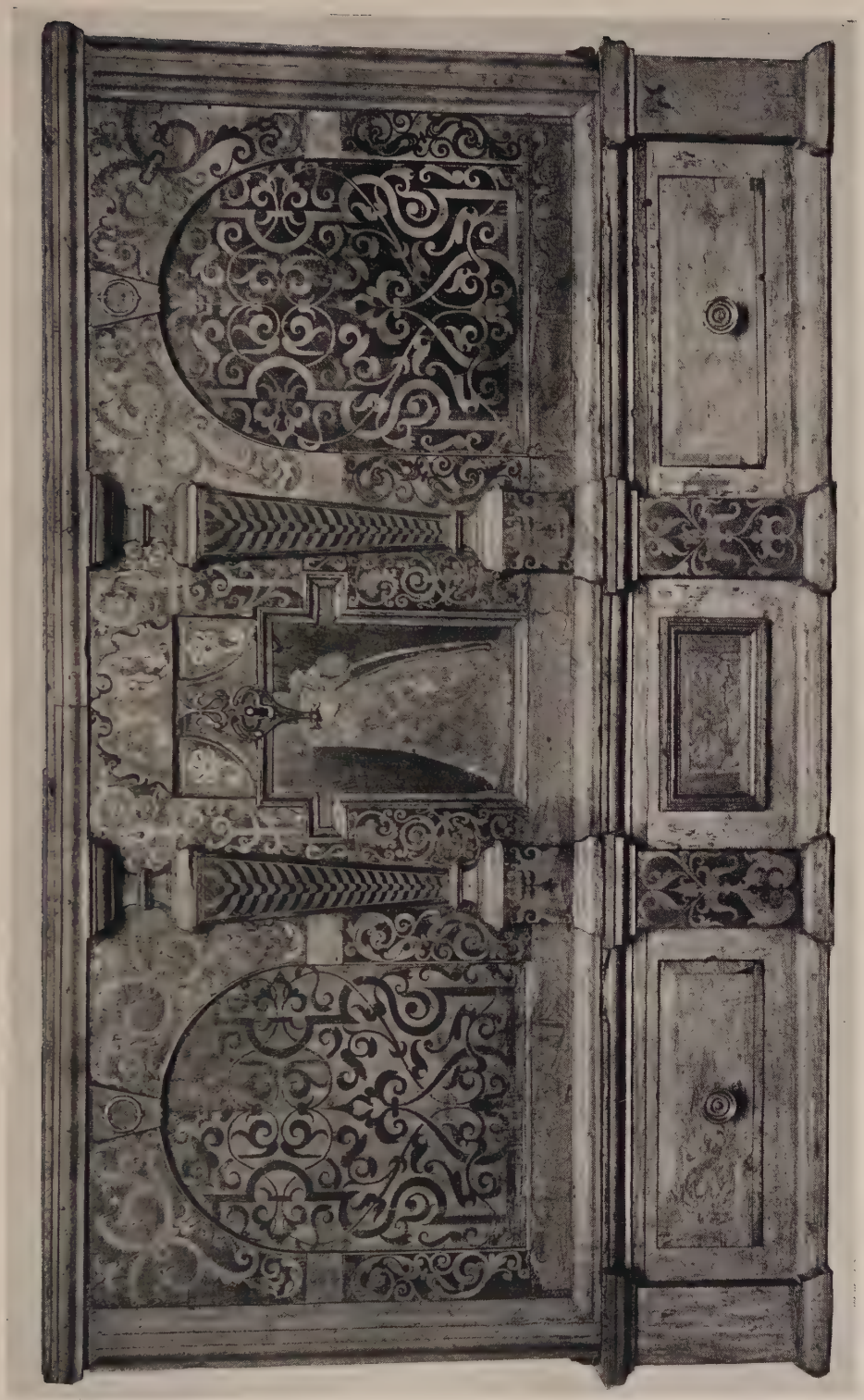
CHEST INLAID WITH ARCHITECTURAL SUBJECTS. 1567. SWISS. *Swiss National Museum, Zurich.*



INLAID BOX. EARLY 17TH CENTURY. ENGLISH. *V. & A. Museum, London.*
Below : TOP OF BOX.

CHEST INLAID WITH SHIELDS AND BLACK AND WHITE BANDS. 16TH CENTURY. SWISS.

Swiss National Museum, Zurich.



INLAID CHEST WITH COUNTERCHANGE PANELS. 1580. SWISS. *Landesgewerbe Museum, Stuttgart.*

INLAID CHEST WITH ARCHITECTURAL SUBJECTS. 1551. SOUTH GERMAN. *Schlossmuseum, Berlin.*

INLAID BUFFET BY MELTHIOR RHEYDT. 1610. GERMAN. *Schlossmuseum, Berlin.*

RICHLY INLAID DOOR. 1629. PROBABLY DUTCH. *National Museum, Stockholm.*

WARDROBE WITH MARQUETERIE. LATE 17TH CENTURY. DUTCH. *V. & A. Museum, London.*

CABINET WITH INLAY OF FINE SCROLL WORK. QUEEN ANNE PERIOD.
Collection of the late Lord Leverhulme.

INLAID COMMODE. LATE 18TH CENTURY. ENGLISH. *Collection of the late Lord Leverhulme.*

COMMODE INLAID WITH ARCHITECTURAL SUBJECTS. ITALIAN. *Museo Civico, Turin.*

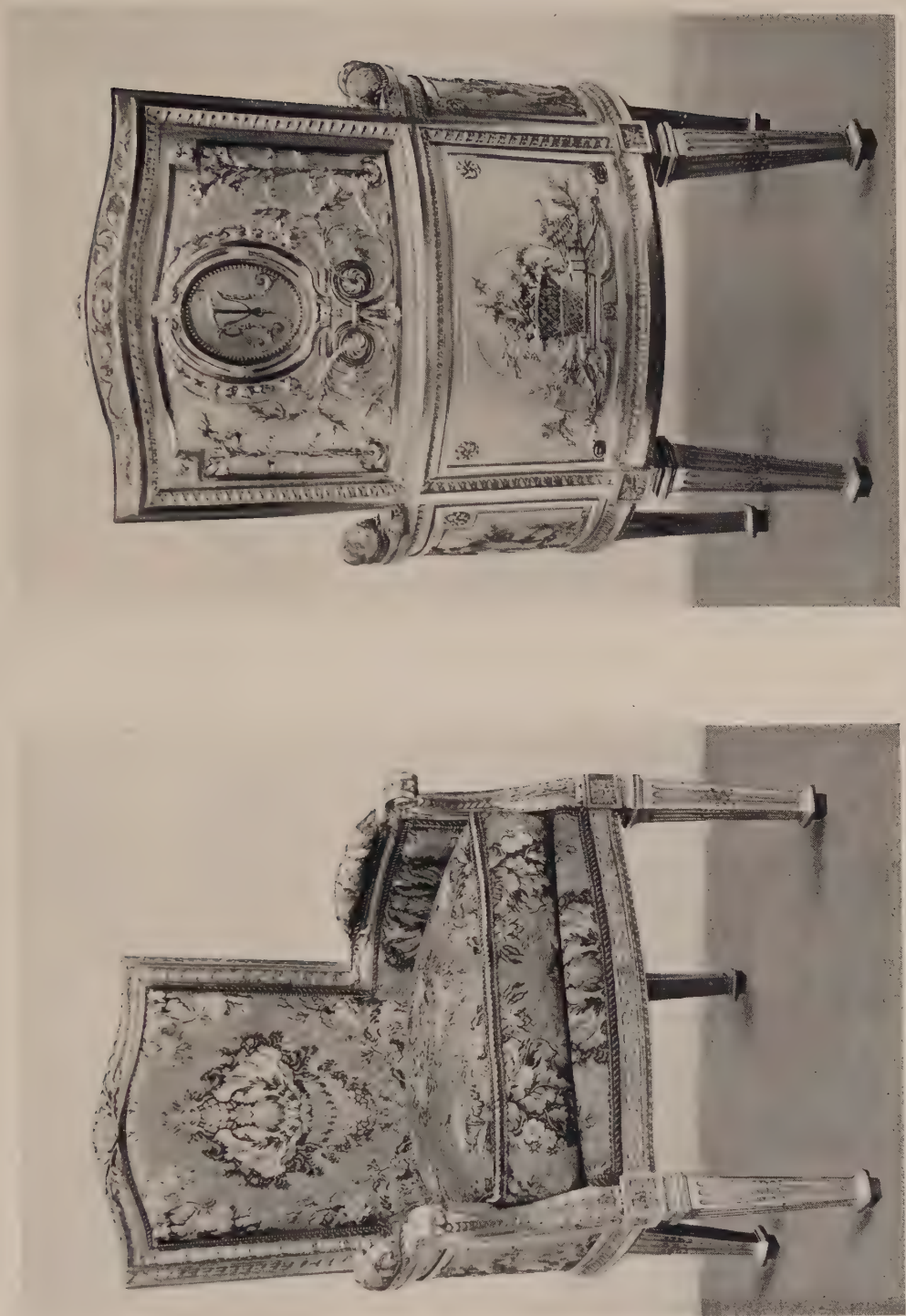
CHIFFONIER INLAID WITH COLOURED WOODS BY RIESENER. LATE 18TH CENTURY. FRENCH.
Musée des Arts Décoratifs, Paris.

INLAID PANEL BY DAVID ROENTGEN. 1743–1803. FRENCH.
Musée des Arts Décoratifs, Paris.

COMMODE WITH MARQUETERIE ON ROSEWOOD GROUND. MIDDLE 18TH CENTURY. FRENCH.
Musée des Arts Décoratifs, Paris.

COMMODE INLAID WITH COLOURED WOODS BY WOLF. LATTER HALF 17TH CENTURY. FRENCH.
Musée des Arts Décoratifs, Paris.

"BOULLE" ARMOIRE INLAID WITH EBONY, COPPER AND BRASS. LATTER HALF 17TH CENTURY. FRENCH.
Musée des Arts Décoratifs. Paris.



ARM-CHAIR CARVED AND GILT. LOUIS SEIZE PERIOD. FRENCH. *Wallace Collection, London.*

EARLY PAINTED CHEST. ROMANESQUE. FIRST HALF 13TH CENTURY. *Cathedral, Halberstadt.*

a

PAINTED FLORENTINE CHEST. 1417. ITALIAN. *Barghello, Florence.*

b

PAINTED CHEST. 16TH CENTURY. SOUTH GERMAN. *Germanisches National Museum, Nuremberg.*

c

PAINTED CHEST. EARLY 16TH CENTURY. GERMAN. *Germanisches National Museum, Nuremberg.*

MARRIAGE COFFER, FIGURE SUBJECTS IN NATURAL COLOURS. 1535. GERMAN.
Germanisches National Museum, Nuremberg.

PAINTED BOX. 1544. SOUTH GERMAN. *Bayerisches National Museum, Munich.*

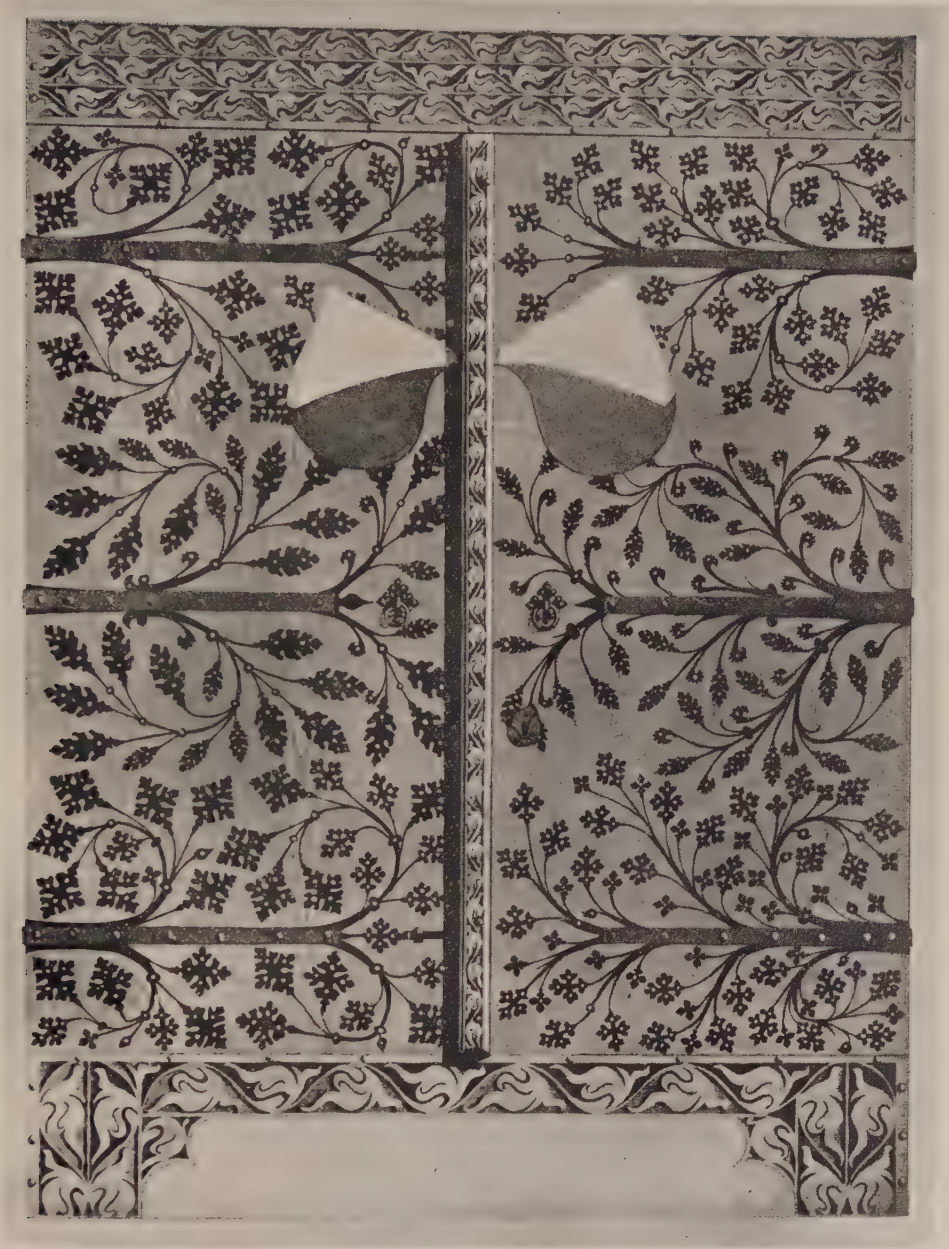
PAINTED TABLE-TOP. EARLY 16TH CENTURY. BAVARIAN. *Bayerisches National Museum, Munich.*

PAINTED CUPBOARD. 1785. BAVARIAN. *Museum of Art and Industry, Hamburg.*

CUPBOARD PAINTED TO IMITATE INLAY. 1703. BAVARIAN. *Museum of Art and Industry, Hamburg.*

PAINTED TABLE. EARLY 18TH CENTURY. DUTCH. *Rijks Museum, Amsterdam.*

CUPBOARD PAINTED WITH ROCOCO SCROLLS. 1791. SWISS. *Swiss National Museum, Zurich.*



CUPBOARD WITH DOORS PAINTED TO IMITATE WROUGHT-IRON WORK. *In the Great Church at Zurich.*

PAINTED BOX. SWISS. *Swiss National Museum, Zurich.*

PAINTED BOX. SWISS. *Swiss National Museum, Zurich.*

PAINTED CHEST. 1779. SWISS. *Swiss National Museum, Zurich.*

PAINTED MARRIAGE CHEST. 1777. SWISS. *Swiss National Museum, Zurich.*

PAINTED WARDROBE. BAVARIAN. *Germanisches National Museum, Nuremberg.*

PAINTED SIDE TABLE. LATE 18TH CENTURY. IRISH.

PAINTED SEMI-OVAL TABLE. CIRCA 1800. ENGLISH. *V. & A. Museum, London.*

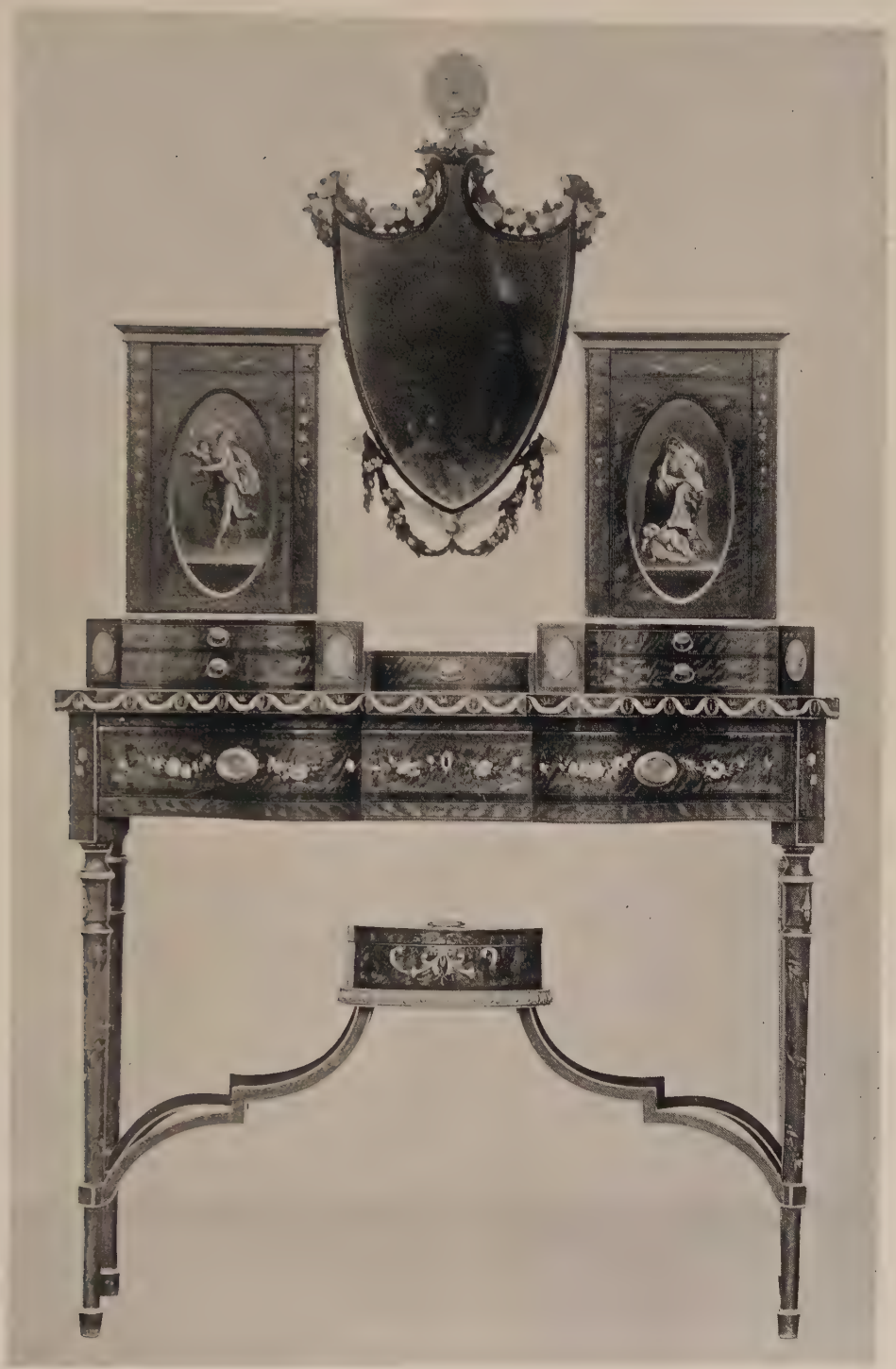
b

a

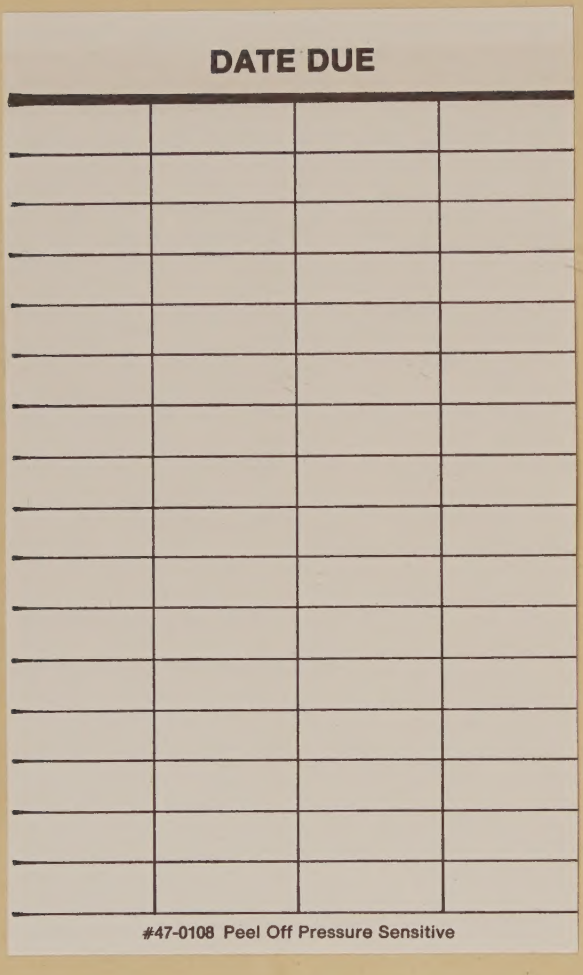
c

d

PAINTED TEA CADDIES. 18TH CENTURY. ENGLISH. *V. & A. Museum, London.*



PAINTED SATINWOOD DRESSING-TABLE. LATE 18TH CENTURY. ENGLISH. *V. & A. Museum, London.*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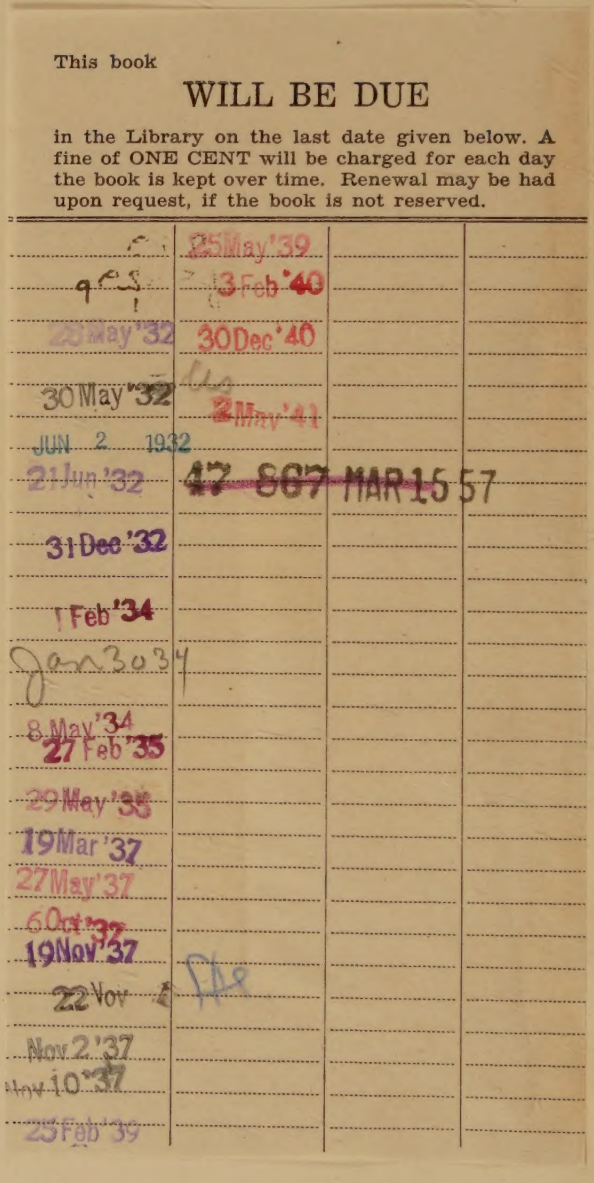
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